

PRODUCTION ENGINEERING COMMITTEE
OF THE POLISH ACADEMY OF SCIENCES

POLISH ASSOCIATION
FOR PRODUCTION MANAGEMENT



Management and Production Engineering Review

Volume 12, Number 1, March 2021

www.mper.org

ISSN 2080-8208

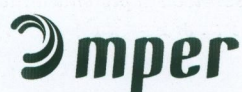


TABLE OF CONTENTS

SINGA WANG CHIU, TIFFANY CHIU, YUAN-SHYI PETER CHIU, HONG-DAR LIN Economic Manufacturing Quantity Model with Machine Failure, Overtime and Rework/Disposal of Nonconforming Items.....	3
MANISH ORAON, VINAY SHARMA Application of Artificial Neural Network: A Case of Single Point Incremental Forming (SPIF) of Cu67Zn33 Alloy	17
OUMAIMA BOUNOU, ABDELLAH EL BARKANY, AHMED EL BIYAALI Contribution Overview to the Evaluation and Development of Spare Parts Management Models: Meta-Heuristic and Probabilistic Methods.....	24
BARTLOMIEJ GLADYSZ, DONATELLA CORTI, ELIAS MONTINI Forecasting the Development of RFID Technology	38
HANA URBANCOVÁ, LUCIE DEPOO Factors Affecting Strategic Types of Organizational Culture: Evidence from Organizations and Managers Operating in the Czech Republic	48
MARIUSZ BEDNAREK, ANETA PARKES Legacy of Fordism and Product Life Cycle Management in the Modern Economy	61
JERZY DUDA, ANDRZEJ MACIOŁ, STANISŁAW JĘDRUSIK, BOGDAN RĘBIASZ, ADAM STAWOWY, MONIKA SOPIŃSKA-LENART Quick Response Manufacturing for High Mix, Low Volume, High Complexity Manufacturers.....	72
BOŻENA KACZMARSKA, WACŁAW GIERULSKI, JOSEF ZAJAC, ANTON BITTNER Modelling of Technology Valuation in the Process of its Commercialization	85
BEATRICE PAIVA SANTOS, DAISY VALLE ENRIQUE, VINICIUS B.P. MACIEL, TÂNIA MIRANDA LIMA, FERNANDO CHARRUA-SANTOS, RENATA WALCZAK The Synergic Relationship Between Industry 4.0 and Lean Management: Best Practices from the Literature.....	94
MOHAMMAD AMIN MORTAZAVI, ATEFEH AMINDOUST, ARASH SHAHIN, MEHDI KARBASIAN Integration of the TRIZ Matrix and ANP to Select The Reactive Maintenance Tactics using the Meta-Synthesis Approach	108
KATERYNA CZERNIACHOWSKA, KRZYSZTOF ŻYWICKI, RADOSŁAW WICHNIAREK A Method to Improve Planning of Product Placement on a Printing Sheet.....	119

PRODUCTION ENGINEERING COMMITTEE
OF THE POLISH ACADEMY OF SCIENCES

POLISH ASSOCIATION
FOR PRODUCTION MANAGEMENT



Management and Production Engineering Review

Volume 12, Number 2, June 2021

www.mper.org

ISSN 2080-8208

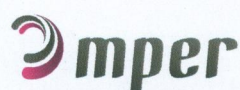


TABLE OF CONTENTS

MATTI MUHOS, MARTTI SAARELA, ANNA-MARI SIMUNANIEMI, DEL FOIT JR., LADA RASOCHOVA The Early Stages of Growth in Technology- and Service-Based Firms	3
MASTOOR M. ABUSHAEGA, YAHYA H. DAEHY, SALEH Y. ALGHAMDI, KRISHNA K. KRISHNAN, ABDULRAHMAN KHAMAJ Design of Supply Chain Network to Reduce Impacts of Damages during Shipping	17
JOANNA KRAJEWSKA-ŚPIEWAK, JAN TUREK, JÓZEF GAWLIK Maintenance Supervision of the Dies Condition and Technological Quality of Forged Products in Industrial Conditions	27
YUAN-SHYI PETER CHIU, VICTORIA CHIU, HONG-DAR LIN, TIFFANY CHIU Multiproduct Fabrication-Shipment Decision Making Incorporating an Accelerated Rate and Ensured Product Quality	33
MARIA KRECHOWICZ, WACŁAW GIERULSKI, STEPHEN LONERAGAN, HENK KRUSE Human and Equipment Risk Factors Evaluation in Horizontal Directional Drilling Technology Using Failure Mode and Effect Analysis	45
JUHI SINGH, MANDEEP MITTAL Customer's Purchase Prediction Using Customer Segmentation Approach for Clustering of Categorical Data	57
ANDRZEJ GESSNER Optimizing Body Machining Including Variable Casting Allowances	65
ANNA BURDUK, DAGMARA ŁAPCZYŃSKA, PIOTR POPIEL Simulation Modeling in Production Effectiveness Improvement – Case Study	75
TEUKU BEUNA BARDANT, ARIEF AMEIR RAHMAN SETIAWAN, MUTHIA SYAFIKA HAQ, HAFIIZH PRASETIA, ADHI IRIANTO MASTUR, SUGENG HARIANTO, AGUSTA SAMODRA PUTRA, ANNY SULASWATTY, EDI ISWANTO WILOSO, RYOZO NOGUCHI Simulation of Gamboeng Tea Product Manufacturing Process and Their Role in Reducing Environmental Impact	86
JOANNA WOŹNIAK, GRZEGORZ BUDZIK, ŁUKASZ PRZESZŁOWSKI, KATARZYNA CHUDY-ŁASKOWSKA Directions of the Development of the 3D Printing Industry as Exemplified by the Polish Market	98
MIRIAM PEKARČÍKOVÁ, PETER TREBUŇA, MAREK KLIMENT, ŠTEFAN KRÁL, MICHAL DIC Modelling and Simulation the Value Stream Mapping – Case Study	107
BEATA STARZYŃSKA, AGNIESZKA KLEMBALSKA A Digital Repository of Science Assets as a Tool for Knowledge Transfer to Manufacturing Enterprises	115

PRODUCTION ENGINEERING COMMITTEE
OF THE POLISH ACADEMY OF SCIENCES

POLISH ASSOCIATION
FOR PRODUCTION MANAGEMENT



Management and Production Engineering Review

Volume 12, Number 3, September 2021

www.mper.org

ISSN 2080-8208



TABLE OF CONTENTS

ZAKARIA DAHIA, AHMED BELLAOUAR, JEAN-PAUL DRON
Maintenance Evaluation and Optimization of a Multi-State System Based on a Dynamic Bayesian Network 3

ANITA AGÁRDI, KÁROLY NEHÉZ
The Unrelated Parallel Machines Scheduling Problem with Machine and Job Dependent Setup Times, Availability Constraints, Time Windows and Maintenance Times 15

AMER MOMANI, TAREK AL-HAWARI, SUFYAN TAHAT
A Framework to Diagnose the Business and Evaluate Upgrade Plans in SMEs 25

MICHAL PALEGA
Application of the Job Safety Analysis (JSA) Method to Assessment Occupational Risk at the Work- place of the Laser Cutter Operator 40

MICAELA MARZIALI, DANIEL ALEJANDRO ROSSIT, ADRIÁN TONCOVICH
Warehouse Management Problem and a KPI Approach: a Case Study 51

JERZY PATER, DOROTA STADNICKA
Towards Digital Twins Development and Implementation to Support Sustainability – Systematic Lit- erature Review 63

SUMIT KUMAR, PARDEEP GUPTA
Prioritizing Key Business Actions of an Indian Automobile Industry Using Efficient Interpretive Rank- ing Process (eIRP) 74

IBRAHIM SABRY
Experimental and Statistical Analysis of Possibility Sources – Rotation Speed, Clamping Torque and Clamping Pith for Quality Assessment in Friction Stir Welding 84

BARTOSZ CIESLA, JANUSZ MLECZKO
The Way of ETO SMEs to Mass Customization – Overview from Real Production Systems 97

SERGEY V. NOVIKOV, GENNADY V. TIKHONOV
Development of an Adaptive Management Strategy of High-Technology Enterprises in Modern Crisis 106

SHRUTI SUDHAKAR DANDGE, SHANKAR CHAKRABORTY
A Data Mining Approach for Analysis of a Wire Electrical Discharge Machining Process 116

MEHDI AJALLI, NIMA SABERIFARD, BABAK ZINATI
Evaluation and Ranking the Resilient Suppliers with the Combination of Decision Making Techniques 129

PRODUCTION ENGINEERING COMMITTEE
OF THE POLISH ACADEMY OF SCIENCES

POLISH ASSOCIATION
FOR PRODUCTION MANAGEMENT



Management and Production Engineering Review

Volume 12, Number 4, December 2021

www.mper.org

ISSN 2080-8208



TABLE OF CONTENTS

MARIUSZ NIEKURZAK, EWA KUBIŃSKA-JABCOŃ Production Line Modelling in Accordance with the Industry 4.0 Concept as an Element of Process Management in the Iron and Steel Industry	3
NGUYEN NGOC ANH, ANH CHI PHAN, PHAM THI XUAN THOA, YOSHIKI MATSUI Quality Information and Quality Performance: Roles of Process Control as a Mediator and Shop Floor Leadership as a Moderator	13
ALVARO NEUENFELDT JÚNIOR, MATHEUS FRANCESCETTO, GABRIEL STIELER, DAVID DISCONZI A Multi-label Transformation Framework for the Rectangular 2D Strip-Packing Problem	27
HAKEEM UR REHMAN, AYYAZ AHMAD, ZARAK ALI, SAJJAD AHMAD BAIG, UMAIR MANZOOR Optimization of Aggregate Production Planning Problems with and without Productivity Loss using Python Pulp Package	38
GABRIELA KOPANIA, ANNA KUCZMASZEWSKA New Characteristics in the Assessment of Reliability of Machines and Devices	45
YUNG CHIN SHIH Seru Production System: A Review and Projections for Future Research	53
NICOLETTA BASKIEWICZ, CLAUDIU BARBU The Role of Internal Conditions in the Implementation of the Lean Green Concept: American, Japanese and Polish Experiences	71
DANUTA ROJEK The Technological Factors of Enterprise Innovation in a Strategic Perspective.....	87
IBRAHIM KHAN MOHAMMED, STEFAN TRZCIELINSKI The Interconnections Between ICT, Industry 4.0 and Agile Manufacturing.....	99
ANNE-MARI JÄRVENPÄÄ, VESA SALMINEN, JUSSI KANTOLA Industrial Symbiosis, Circular Economy and Industry 4.0 – A Case Study in Finland	111
ILONA HERZOG, MARTA GRABOWSKA Quality Cost Account as a Framework of Continuous Improvement at Operational and Strategic Level	122
ÁGNES SÁNDOR, ÁKOS GUBÁN A Measuring Tool for the Digital Maturity of Small and Medium-Sized Enterprises	133