Contents

Part I Intelligent Systems

1 Average Run Length Performance Approach to Determine the Best Control Chart When Process Data is Autocorrelated ... 3
Ana Sofia Matos, Rogério Puga-Leal and José Gomes Requeijo

2 Evolution Mechanism of Scale Invariant Knowledge Network Influenced by Exogenous Factors ................. 13
Ziyang Geng, Li Zhang and Xin Gu

3 Assessment of Hardware Product Design Defects by Fuzzy Neural Network Based on Genetic Algorithm ............... 25
Huimeng Zheng, Weidong Liu, Chengdi Xiao and Weili Hu

4 Game Analysis and Improvement of the Medical Expenses Payment ......................................................... 35
Fang Qing, Li Luo, Ming Zhao and Qunrong Ren

5 Incorporation of EU Harmonized Classifications to Enhance Traditional Methods of Risk Analysis ............... 45
Rute Ferreira, Elsa Boto and Celeste Jacinto

6 A Bilevel Programming Model for an Agriculture Production-Distribution System with Fuzzy Random Parameters .................................................... 59
Zhimiao Tao and Xiaoye Qian

7 A Multi-attribute Reverse Auction Decision Making Model Based on Multi-objective Programming ............... 73
Yazhen Chen, Longbo Qiu, Tianyu Cao and Zhineng Hu

8 The Efficiency Evaluation of Chinese Film and Television Industry Listed Companies Based on DEA Method ........... 83
Guangmin Li, Qiong Lei and Yongzhong Yang
<table>
<thead>
<tr>
<th>Article Number</th>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>A Balanced Transfer Learning Model for Customer Churn Prediction</td>
<td>Bing Zhu, Jin Xiao and Changzheng He</td>
<td>97</td>
</tr>
<tr>
<td>10</td>
<td>Assessment Employee Empowerment Through Combination of FAHP and VIKOR Methods</td>
<td>Hossein Safari, Virgílio António Cruz-Machado, Alireza Faghih, Mohsen Heidari and Fatemeh Mirzaei Rabor</td>
<td>105</td>
</tr>
<tr>
<td>11</td>
<td>Research on Innovation Capability of National High-tech Zones: Model Building and Empirical Analysis</td>
<td>Jiangfu Zhang and Xin Gu</td>
<td>117</td>
</tr>
<tr>
<td>12</td>
<td>Who Knows What and Who is Reliable: Transactive Memory System in Multiactivity Task Environment</td>
<td>Chen Zhao and Zhonghua Gao</td>
<td>131</td>
</tr>
<tr>
<td>13</td>
<td>Research on the Construction Safety Investment Regulation Evolutionary Game and Application</td>
<td>Wenke Wang, Qin Yang, Mao Lu and Qiaoyan Yu</td>
<td>145</td>
</tr>
<tr>
<td>14</td>
<td>A Rumor Spreading Model Considering Latent State</td>
<td>Yi Zhang and Chong Chen</td>
<td>155</td>
</tr>
<tr>
<td>15</td>
<td>Linguistic Distribution Assessments with Interval Symbolic Proportions</td>
<td>Yuzhu Wu, Hengjie Zhang and Yucheng Dong</td>
<td>163</td>
</tr>
<tr>
<td>16</td>
<td>Interval Forecasting Model with ARIMA for Monitoring Indicators of Small and Micro Enterprises in Sichuan Province</td>
<td>Rui Wang, Shuang Zhao and Ting Peng</td>
<td>175</td>
</tr>
<tr>
<td>17</td>
<td>Modeling Business Interoperability in a Context of Collaborative Supply Chain Networks</td>
<td>Izunildo Cabral, Antonio Grilo, Antonio Gonçalves-Coelho and Antonio Mourão</td>
<td>187</td>
</tr>
</tbody>
</table>

**Part II Decision Support Systems**

<table>
<thead>
<tr>
<th>Article Number</th>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>Mathematical Models of Moving Particles and Their Application for Traffic</td>
<td>Narmina Abdullayeva, Asaf Hajiyev and Mirvari Hasratova</td>
<td>203</td>
</tr>
<tr>
<td>Chapter</td>
<td>Title</td>
<td>Authors</td>
<td>Page</td>
</tr>
<tr>
<td>---------</td>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>19</td>
<td>Decision Making via Binary Decision Diagrams: A Real Case Study</td>
<td>Alberto Pliego Marugán, Fausto Pedro García Márquez and Jose Lorente Lavinren</td>
<td>215</td>
</tr>
<tr>
<td>20</td>
<td>Portfolio Delivery Approach to Township Sewage Treatment Facilities in China: A Case Study</td>
<td>Chuan Chen, Nini Wu and Igor Martek</td>
<td>223</td>
</tr>
<tr>
<td>21</td>
<td>Research on the Design of the Selective Contract Under SMEs’ Financial Demand</td>
<td>Sheng Zhong, Bingjie Luo and Yunfeng Zhao</td>
<td>231</td>
</tr>
<tr>
<td>22</td>
<td>The Identification of Recessive Community Organization in Group Decision Making</td>
<td>Chunxiang Guo, Ruili Shi and Zhiyong Zhou</td>
<td>241</td>
</tr>
<tr>
<td>23</td>
<td>A Superiority Index Based Method for MCDM Under Uncertain Linguistic Setting</td>
<td>Zhibin Wu</td>
<td>253</td>
</tr>
<tr>
<td>24</td>
<td>Evaluation of the New Media’s Influences in College Student Based on Analytic Hierarchy Process</td>
<td>Qisheng Chen, Haitao Liu, Guihua Dong and Yan Wang</td>
<td>265</td>
</tr>
<tr>
<td>25</td>
<td>A New Approach to Job Evaluation Through Fuzzy SIR</td>
<td>Hossein Safari, Mohammad Aghighi, Fatemeh Mirzaei Rabor and Vírgilio António Cruz-Machado</td>
<td>273</td>
</tr>
<tr>
<td>26</td>
<td>Venture Capital and Entrepreneurial Innovation: Research on the Data of GEM in China</td>
<td>Qilin Cao, Qiang Zhou and Yingkai Tang</td>
<td>291</td>
</tr>
<tr>
<td>27</td>
<td>Employee’s Perception of Occupational Hazards and Health Complaints in the Financial Sector (Portuguese Sample)</td>
<td>José Miquel Cabeças and Mário Rui Mota</td>
<td>303</td>
</tr>
<tr>
<td>28</td>
<td>Research on Construction and Analysis of the Six-Dimension Integrated Strategic Transformation Modeling</td>
<td>Xiaowen Tang and Yanfei Deng</td>
<td>315</td>
</tr>
<tr>
<td>29</td>
<td>Analysis on Regional Difference in Relationship Between Financial Development and Urban–Rural Income Gap</td>
<td>Limin Yang, Liuliu Kong, Yanni Shen and Yuanyaun Ge</td>
<td>325</td>
</tr>
</tbody>
</table>
30 Strategic Analysis of Garden City of Chengdu with SWOT Method Based on Ecological Civilization .......................... 337
Mao Lu, Wenke Wang, Hui Li and Yalan Yang

31 DYNAMOD—An Agent Based Modeling Framework: Applications to Online Social Networks .......................... 349
Aneesh Zutshi, Antonio Grilo and Ricardo Jardim-Gonçalves

32 The Research on Treasury Bond Futures Market Liquidity Measuring Index Based on OSA Algorithm ........ 363
Jun Hou, Wenke Wang, Mao Lu and Yan Hu

33 The Method of Knowledge Chain Partner Selection Based on Improved TOPSIS ............................................. 375
Hong Peng and Zongxin Liu

34 A Relationship Model of Brand Marketing Strategy and Agribusiness Dynamic Capability .......................... 385
Yu Ding, Wensheng Li and Yi Peng

Michiko Miyamoto

Part III Manufacturing

36 Identifying Innovation Patterns: Some Insights on Portuguese Manufacturing Companies .......................... 415
Maria do Rosário Cabrita, Virgínia Helena Machado, Ana Paula Barroso and Virgílio António Cruz-Machado

37 Integrated System Health Management for Environmental Control and Life Support System in Manned-Spacecraft .... 429
Fan Li and Yusheng Wang

38 Research on Big Data Under Enterprise Technological Innovation Management ................................. 443
Guichuan Zhou and Xiaowen Jie

39 Application of Multi-objective Optimization Based on Genetic Algorithms in Mining Processing Enterprises .... 455
Yue He, Mengxiang Zhang and Liming Yao
40 Input Analysis in Simulation: A Case Study Based on the Variability in Manufacturing Lines .................. 465
   David Lucas and Alexandra Tenera

41 Corporate Governance and the Use of Raised Capital: Evidence from China’s Growth Enterprise Market ........... 479
   Yiguang Li, Dongyu Bai and Yang Rong

42 An Empirical Study on the Impact of Person–Organization Fit on Organizational Effectiveness ....................... 491
   Qingsong Zhu, Jiong Chen, Nicholas Martin Ynami and Yumeng Feng

43 Firms’ Financial Risk Forecasting Based on the Macroeconomic Fluctuations ................................. 501
   Hong Wang, Yonggan Zhao and Shuichang Xie

44 Relationship Between Social Responsibility and Economic Benefits of Liquor Industry ............................. 513
   Yixin Zhang, Shuhua Yang and Liming Yao

45 Dissimilar Welding Using Spot Magnetic Pulse Welding .............. 525
   Guillaume Racineux, Arun Prasath Manogaran, Diogo Pereira and Rosa M. Miranda

46 Lean Services: An Approach for Supply Chains Based on the Gaps Model of Service Quality .......................... 533
   Raul Susano, Carmen Jaca and Rogério Puga-Leal

47 Ship Building Production in Jiangsu Province Based on DEA Efficiency Analysis ........................................ 541
   Guangming Zhang and Huayi Liu

48 The Substitution Effect of Trade Credit Financing in an Emerging Economy: Empirical Evidence from China ...... 551
   Qianwei Ying, Wanqing Guo and Tian Yang

49 Inquiring into the Economic Structural Breakpoints and Postwar U.S. Business Cycle .................................. 563
   Junrong Liu and Zhiming Feng

50 The Macroeconomic and Financial Effects of Oil Price Shocks ... 571
   Song Zhou and Dong Wang
51 The Multi-objective Optimization Model of the Industrial Structure in the Processes of Urbanization: A Case Study of Shizhong District, Neijiang City .......................... 581
Yunqiang Liu and Lu Gan

52 Multi Objective Production–Distribution Decision Making Model Under Fuzzy Random Environment .................. 591
Muhammad Nazim, Muhammad Hashim, Abid Hussain Nadeem, Liming Yao and Jamil Ahmad

Part IV Supply Chain Management

53 A Cross-Case Analysis of RFID Deployment in Fast Fashion Supply Chain ..................................................... 605
Susana G. Azevedo, Helena Carvalho and Virgílio António Cruz-Machado

54 Capacity Allocation Model of Air Cargo with the Differences in Transport Time .............................................. 619
Li Luo, Yong Lei and Jing Yuan

55 Profit Allocation Mechanism of Supply Chain with Bilateral Asymmetric Costs Information ......................... 633
Xinhui Wang, Hongmei Guo, Xianyu Wang and Jie Zhong

56 Lean and Green Supply Chain Performance: A Balanced Scorecard Perspective ........................................... 645
Susana Duarte and Virgílio António Cruz-Machado

57 Study for Preventive Maintenance Plans and Strategies of High-Value Equipment in Radiation Department of General Hospital Based on Appointment Amount Analysis ... 655
Yueyu Li

58 Inter-organizational Similarity as a Driver of Knowledge Sharing Within Supply Chains .............................. 665
Xin Gu, Qifeng Wei and Chunlan Yu

59 Study of Trade Credit Strategies and Conditions in Supply Chain Based on Perfectly Competitive Suppliers ........ 677
Jinjiang Yan, Hong Cheng and Xianyu Wang
60 The Trade Credit Will in Supply Chain Transactions  687
Hong Cheng, Hongmei Guo and Xianyu Wang

61 Supply Chain as a Collaborative Virtual Network Based on LARG Strategy  701
Ana Rolo, António Ramos Pires and Margarida Saraiva

62 Supplier Evaluation and Selection Using Restricting Weights Method in Fuzzy Environment  713
Abid Hussain Nadeem, Muhammad Nazim, Muhammad Hashim, Muhammad Kashif Javed and Liming Yao

63 Multiobjective Decision-Making Model in Cold Chain Logistics Inventory System Under Complex Random Phenomenon  725
Can Ding and Yunqiang Liu

64 Process-Based Supply Chain Performance Measurement  737
Hua Wen

65 $\delta$-Shock Supply Chain Reengineering Decision Model Under Weibull Distribution  749
Manyi Tan, Xiaoying Bao, Dan Ding and Feng Lin

66 Role of Talent Management, Diversity Trainings and HRD on Effective Implementation of HR Practices in Telecom Sector in Pakistan  761
Muhammad Imran Hanif, Yunfei Shao, Muhammad Ziaullah and Muhammad Shahzad Hanif

67 Cooperative Quality Investment in Outsourcing and Its Impact on Supply-Chain Performance  771
Jingxian Chen

68 A Fuzzy Relationship Model of FMEA for Quality Management in Global Supply Chains  785
Lu Gan and Can Ding

69 Designing Lean Supply Chains: A Case Study  791
Karn Chantarachalee, Helena Carvalho and Virgílio António Cruz-Machado

Author Index  809
Proceedings of the Eighth International Conference on Management Science and Engineering Management Focused on Intelligent System and Management Science
Xu, J.; Cruz-Machado, V.A.; Lev, B.; Nickel, S. (Eds.)
2014, XXI, 811 p. 175 illus., 37 illus. in color., Hardcover
ISBN: 978-3-642-55181-9