

Contents

Part I Basic Issues in Economic, Organization and Management Systems

Does Policy Consistency Affect Economic Growth?	3
Finn E. Kydland	
Perception and Reality of the Spanish Economy	19
Fernando Casado Juan	
The Virtual Company as a Value Generator in the New Economy	35
Mario Aguer Hortal	
The Origin of the Legitimacy of Organizations and Their Determining Factors	45
Camilo Prado-Román, Francisco Díez-Martín, Alicia Blanco-González and Alberto Prado-Román	
A Model for the Management in Organizations Based on People and Knowledge: Aspects to Be Considered in Its Design	63
José María de-Goñi-Oslé and Arturo Rodríguez-Castellanos	

Part II Decision Making and Systems Modeling

Six Experimental Activities to Introduce the Theory of Fuzzy Sets	85
Joan Carles Ferrer Comalat, Xavier Bertran Roura, Salvador Linares Mustarós and Dolors Corominas Coll	
Fuzzy Decision Making System for Model-Oriented Academia/Industry Cooperation: University Preferences	109
Galyna Kondratenko, Yuriy Kondratenko and Ievgen Sidenko	
Towards the Convergence in Fuzzy Cognitive Maps Based Decision-Making Models	125
Leonardo Concepción, Gonzalo Nápoles, Isel Grau, Koen Vanhoof and Rafael Bello	

Eliciting Fuzzy Preferences Towards Health States with Discrete Choice Experiments	131
Michał Jakubczyk, Bogumił Kamiński and Michał Lewandowski	
The Soft Consensus Model in the Multidistance Framework	149
Silvia Bortot, Mario Fedrizzi, Michele Fedrizzi, Ricardo Alberto Marques Pereira and Thuy Hong Nguyen	
Fuzzy Multi-criteria Decision Making Methods Applied to Usability Software Assessment: An Annotated Bibliography	165
Yamilis Fernández-Pérez, Ailyn Febles-Estrada, Carlos Cruz and José Luis Verdegay	
Production Systems Optimization Using Hierarchical Planning	191
F. González Santoyo, B. Flores Romero, A. M. Gil Lafuente, J. Flores Juan and R. Chávez Rivera	
Mathematical Model and Parametrical Identification of Ecopyrogenesis Plant Based on Soft Computing Techniques	201
Yuriy P. Kondratenko, Oleksiy V. Kozlov, Galyna V. Kondratenko and Igor P. Atamanyuk	
Part III Intelligent Data Analysis and Processing	
Fuzzy Data Processing Beyond Min t-Norm	237
Andrzej Pownuk, Vladik Kreinovich and Songsak Sriboonchitta	
Detecting Changes in Time Sequences with the Competitive Detector	251
Leszek J. Chmielewski and Arkadiusz Orłowski	
Deep Learning Architecture for High-Level Feature Generation Using Stacked Auto Encoder for Business Intelligence	269
Vikas Singh and Nishchal K. Verma	
Comparison of Type-2 Fuzzy Integration for Optimized Modular Neural Networks Applied to Human Recognition	285
Daniela Sánchez, Patricia Melin and Oscar Castillo	
Part IV Sustainability	
Fuzzy Measure of National Sustainable Development Aggregate Index	305
Gorkhmaz Imanov	

A Dynamic Game for a Sustainable Supply Chain Management	331
Massimiliano Ferrara and Bruno Antonio Pansera	
Pichat's Algorithm for the Sustainable Regional Analysis Management: Case Study of Mexico	349
Ingrid Nineth Pinto López, Anna María Gil Lafuente and Guillermo Sánchez Flores	
Companies' Selection Methods for Inclusion in Sustainable Indices: A Fuzzy Approach	365
Vicente Liern and Blanca Pérez-Gladish	
Part V Financial Analyses	
About Formal Construction of Financial Analysis	383
Alfonso M. Rodríguez	
Stock Returns Forecast: An Examination By Means of Artificial Neural Networks	399
Martín Iglesias Caride, Aurelio F. Bariviera and Laura Lanzarini	
Persistent Correlations in Major Indices of the World Stock Markets	411
Maciej Janowicz, Leszek J. Chmielewski, Joanna Kaleta, Luiza Ochnio, Arkadiusz Orłowski and Andrzej Zembrzuski	
Forgotten Effects in Exchange Rate Forecasting Models	423
Ezequiel Avilés Ochoa, Ernesto León Castro, Ana María Gil Lafuente and José María Merigo Lindahl	
The Behaviour of Non-surviving Spanish Funds According to Their Investment Objectives	439
Antonio Terceño, M. Gloria Barberà-Mariné, Laura Fabregat-Aibar and Maraia Teresa Sorrosal-Forradellas	
Part VI Applications in Business and Technology	
Management System for Agricultural Enterprise on the Basis of Its Economic State Forecasting	453
Igor Atamanyuk, Yuriy Kondratenko and Natalia Sirenko	
Partner Selection in Green Innovation Projects	471
Marina Z. Solesvik	
Evaluation of Structural Integrity of Metal Plates by Fuzzy Similarities of Eddy Currents Representation	481
Mario Versaci and Francesco Carlo Morabito	

**Cochlear Implants: Consequences of Microphone Aging on
Speech Recognition** 497
C. Berger-Vachon, P. A. Cucis, E. Truy, H. Thai Van and S. Gallego

**Alternative Fuzzy Approaches for Efficiently Solving the Capacitated
Vehicle Routing Problem in Conditions of Uncertain Demands** 521
Brigitte Werners and Yuriy Kondratenko

Complex Systems: Solutions and Challenges in
Economics, Management and Engineering

Dedicated to Professor Jaime Gil Aluja

Berger-Vachon, C.; Gil-Lafuente, A.M.; Kacprzyk, J.;

Kondratenko, Y.; Merigó, J.M.; Morabito, F.C. (Eds.)

2018, XXVI, 543 p. 146 illus., 80 illus. in color.,

Hardcover

ISBN: 978-3-319-69988-2