

# Preface

This fifth edition of the EWG-DSS Decision Support Systems LNBIP series represents a selection of reviewed and revised papers of the 1st International Conference on Decision Support System Technology (ICDSST 2015) held in Belgrade, Serbia, during May 27–29, 2015, with the main topic “Big Data Analytics for Decision-Making.” This event was organized by the EURO (Association of European Operational Research Societies) Working Group on Decision Support Systems (EWG-DSS).

The EWG-DSS series of International Conferences on Decision Support Systems Technology (ICDSST), starting with the ICDSST 2015 in Belgrade, were planned to consolidate the tradition of annual research events organized by the EWG-DSS group, as well as to offer the European and International DSS Communities, including the academic and the industrial sectors, opportunities to present state-of-the-art DSS developments and to discuss the current challenges that surround Decision-Making processes, focusing on realistic but innovative solutions; as well as on potential new business opportunities.

The selected ICDSST 2015 contributions’ scientific areas were as follows: Big data challenges; Big data algorithms (state-of-the-art and available systems); Big data analytics approaches for solving societal decision-making issues; Big data visualization to support decision analysis; Social-networks analysis for decision making; Group and collaborative decision making; Multi-Attribute decision making; Decision-making integrated solutions within open data cross-platforms; Knowledge management and resource discovery for DM; Innovative decision-making methods, Technologies, and real industry applications; among others. This wide and rich variety of themes allowed us, in the first place, to present a summary about some solutions regarding the implementation of decision-making process in a high variety of domains and, in the second place, to highlight their main trends’ and research evolution. Moreover, this EWG-DSS LNBIP Springer volume edition has considered contributions selected from a triple-blind paper evaluation method, maintaining this way its traditional high-quality profile. Each selected paper was reviewed by at least three internationally known experts from the ICDSST 2015 Program Committee and external invited reviewers. Therefore, through its rigorous two-stage based triple round review, 8 out of 26 submissions, which correspond to a 31 % acceptance rate, were selected in order to be considered in this 5th EWG-DSS Springer LNBIP Edition.

It is also our pleasure to have Daniel Power’s contribution to this edition with the introduction chapter as an invited paper, considering his recognized engagement within the DSS international research community during the last 20 years.

In this context, the selected papers are representative of the current and relevant research activities in the area of decision support systems such as decision analysis for enterprise systems and nonhierarchical networks, integrated solutions for decision support and knowledge management in distributed environments, decision support systems evaluations and analysis through social networks, e-learning context, and their application to real environments.

This EWG-DSS Springer LNBIP Edition includes the contributions described in the sequel.

“‘Big Data’ Decision Making Use Cases,” authored by Daniel Power; “The Roles of Big Data in the Decision-support Process: An Empirical Investigation,” authored by Thiago Poletto, Victor Carvalho, and Ana Paula Costa; “Cloud Enabled Big Data Business Platform for Logistics Services: A Research and Development Agenda,” authored by Irina Neaga, Shaofeng Liu, Lai Xu, Huilan Chen, and Yuqiuge Hao; “Making Sense of Governmental Activities over Social Media: A Data-driven Approach,” authored by Brunella Caroleo, Andrea Tosatto, and Michele Osella; “Data-mining and Expert Models for Predicting Injury Risk in Ski Resorts,” authored by Marko Bohanec and Boris Delibašić; “The Effects of Performance Ratios in Predicting Corporate Bankruptcy: The Italian Case,” authored by Francesca di Donato and Luciano Nieddu; “A Tangible Collaborative Decision Support System for Various Variants of the Vehicle Routing Problem,” authored by Nikolaos Ploskas, Ioannis Athanasiadis, Jason Papathanasiou, and Nikolaos Samaras; “Decision Support Model for Participatory Management of Water Resource,” authored by Annielli Cunha and Danielle Morais; “Modeling Interactions Among Criteria in MCDM Methods: A Review,” authored by Ksenija Mandić, Vjekoslav Bobar, and Boris Delibašić.

We would like to take this opportunity to express our deepest gratitude to all authors of the submitted papers for being considered in this reviewing process. All papers were of extremely high quality, hence it was a hard task to select the best eight. Therefore, the EWG-DSS Coordination Board Members would also like to express our gratitude and acknowledgment to our colleagues in the Reviewing Team, who voluntarily contributed to the selection and quality of the included papers in this volume, through their rigorous standards and improvement recommendations. The reviewers of this volume were: Alan Pearman, Alejandro Fernandez, Alex Duffy, Ana Paula Cabral, Ana Respício, Antonio Rodrigues, Boris Delibašić, Daniel Power, Dobrila Petrović, Dragana Bečejski-Vujaklija, Dragana Makajić-Nikolić, Evangelos Grigoroudis, Fátima Dargam, Francesca Toni, Francisco Antunes, Gregory Kersten, Irène Abi-Zeid, Isabelle Linden, Jason Papathanasiou, Jorge Freire de Sousa, José María Moreno Jimenez, Kathrin Kirchner, Kostas Stathis, Marcos Borges, Maria Franca Norese, Marko Bohanec, Miloš Jovanović, Mohamed Ghalwash, Nikolaos Matsatsinis, Nikos Ploskas, Pascale Zaraté, Pavlos Delias, Priscila Lima, Rita Ribeiro, Rudolf Vetschera, Sean Eom, Shaofeng Liu, Tina Comes, Vladan Radosavljević, and Xiaojun Wang.

Finally, we believe that this EWG-DSS Springer LNBIP Volume has made a high-quality selection of well-balanced and interesting research papers addressing the conference main theme.

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Boris Delibašić  
Jorge E. Hernández  
Jason Papathanasiou  
Fátima Dargam  
Pascale Zaraté  
Rita Ribeiro  
Shaofeng Liu  
Isabelle Linden

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