International Journal of Computational Intelligence Systems

ISSN: 1875-6891 (Print) 1875-6883 (Online) Journal homepage: https://www.tandfonline.com/loi/tcis20

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To cite this article: F. Herrera & L. Martínez (2010) Special Issue on Decision Support Systems based on Computing with Words: Applications, International Journal of Computational Intelligence Systems, 3:4, 381-381, DOI: 10.1080/18756891.2010.9727708

To link to this article: https://doi.org/10.1080/18756891.2010.9727708

Guest Editorial

Special Issue on Decision Support Systems based on Computing with Words: Applications

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Decision making activities are basics for daily human tasks that has made of decision making a core area in many fields related to intelligent activities, which usually involve different types of uncertainties implying complexity in the solving process of the decision process. To cope with both uncertainty and complexity have been provided different models and tools. The former has been dealt with probabilistic models but sometimes are not enough because the uncertainties have non-probabilistic character, in such cases the use of linguistic information and the paradigm of Computing with Words has provided an alternative and successful tool. The latter has been managed by means of automatic and somehow intelligence systems such as decision support systems which have facilitated a quicker and better resolution of complex decision problems.

This *Special Issue* is devoted to the use of linguistic information to model and manage uncertainty in decision problems and hence to their operational models based on the Computing with Words paradigm. And it includes a wide view of different applications which use such methods within decision support systems to solve decision problems under uncertainty.

In sum, this issue encompasses nine papers that can be divided in two blocks. In the first one three papers provide broad overviews of the use of Computing with Words in decision related topics and in the second block the other six papers introduce different applications of decision support systems dealing with linguistic information to cope with uncertainty.

The first block starts with a paper entitled *Linguistic Computational Models in Decision Making. Applications based on Linguistic Decision Support Models* in which Herrera et al. give a broad review of the different linguistic computing models that have been used in decision making to accomplish their processes Computing with Words revising their representation and computational models. Finally they provide a detailed list of recent applications of Computing with Words in Decision Making. Liu et al. present a wide review on Computing with Words in risk assessment analyzing its application from different points of view and providing an outstanding list of works related to risk assessment under uncertainty. In the third paper Herrera-Viedma and Lopez-Herrera provide the last review work on Information Accessing Systems Based on Fuzzy Linguistic Modelling where they give an overview about different types of access information systems that deal with linguistic information.

After the review works this issue presents a second block of application papers. The first application presented by Chen et al. introduces a methodology for supplier selection based on a Linguistic PROMETHEE method. Subsequently, Zhu et al. present a method for predicting a fashion theme or emotional linguistic attribute from basic sensory linguistic data. Kahraman et al. then propose a selection method for *Renewable Energy Systems* which is determined by taking into interactions among linguistic criteria by using Choquet integral methodology and applied to a real case in Turkey. After that, Zhang et al. introduce a fuzzy multi-criteria group decision-making method for power distribution system planning evaluation and a fuzzy multi-criteria group decision support system to support the evaluation task is applied to. De Andrés et al. present a linguistic model for performance appraisal dealing with multiple scales providing a case study. Eventually, a social choice analysis of the Borda rule is extended to a linguistic framework by Lapresta et al.

Published by Atlantis Press