Editorial

AHP/ANP THEORY AND ITS APPLICATION IN TECHNOLOGICAL AND ECONOMIC DEVELOPMENT: THE 90TH ANNIVERSARY OF THOMAS L. SAATY

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About the papers of this special issue

In this special issue, five new submissions have contributed to the research field on "AHP/ANP theory and its application in technological and economic development. The 90th anniversary of prof. Thomas L. Saaty". The contents of the five contributions are briefly summarized in the following.

– Green supplier selection is one of the most important decision making activities to obtain the competitive advantage in a firm. Liao *et al.* in "Integrated FAHP, ARAS-F and MSGP methods for green supplier evaluation and selection" propose a novel integrated fuzzy techniques for fuzzy analytic hierarchy process (FAHP), fuzzy additive ratio assessment (ARASF) and multi-segment goal programming (MSGP) approach to deal with the green supplier selection problems. In the study, the process of green supplier selection is regarded as a fuzzy multiple criteria decision-making (FMCDM) problem since it involves the qualitative and quantitative criteria. The advantage of the proposed approach is that it allows for the vague segment aspirations of decision makers to set multiple segment aspiration levels for green supplier selection problems.

– Liao *et al.* in "Integrative model for the selection of a new product launch strategy, based on ANP, TOPSIS and MCGP: a case study" integrate ANP, the technique for order preference by similarity to an ideal solution (TOPSIS) and multi-choice goal programming (MCGP) approach to develop a new approach for the selection of a new product launch strategy. The advantage of the integrated approach is that it is capable of considering the tangible (qualitative) and intangible (quantitative) criteria in the launch strategy of a new product selection problem. Two types of criteria such as "more/higher is better" and "less/lower is better" are also considered in the proposed method.

– In the paper entitled "Combining DRSA decision-rules with FCA-based DANP evaluation for financial performance improvements", by Shen and Tzeng, a combined approach by integrating soft computing techniques (i.e., DRSA) and multiple criteria decision making (MCDM) methods (i.e., DEMATEL and DANP) is proposed to analyze financial performance (FP) of semiconductor companies. The proposed approach can be used to guide semiconductor companies to improve financial performance (FP).

– Shieh *et al.* in "Critical success factors in digital publishing technology using an ANP approach" develop an evaluation model using analytic network process (ANP) to explore the critical success factors (CSFs) for the successful implementation of Digital publishing technology (DPT). The proposed model can be applied to identify and prioritize the CSFs for the development of DPT. The Taiwan's DPT is used to demonstrate the applicability of the proposed method.

– Kou *et al.* in "Pairwise comparison matrix in multiple criteria decision making" review the literature of the main developments of the pairwise comparison matrix (PCM), including the measurement scales, consistency indices, inconsistency processing models, missing judgments processing models, priority derivation methods. The reviewed literature were published in the international journal and searched via the ISI Web of science from 2010 to 2015. The results of the review show that the most prevalent research topics in the PCM is cardinal inconsistency processing models, while new approaches remain to be studied for tackling the large dimension and missing judgment under the big data in future.