Editorial

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We are pleased to introduce this special issue on 'Applications of AHP/ANP in government policy and decision making'. The purpose of this special issue is to collect a high-quality selection of contemporary research articles on the topic of 'Applications of AHP/ANP in government policy and decision making'. The analytic hierarchy process (AHP) and its generalisation, analytic network process (ANP), are structured techniques for organising and analysing complex decisions, based on mathematics and psychology. In this light, we have selected four papers in this special issue to address the government policies and effective decision making as a powerful tools in reaching the full potential of globalisation and economic prosperity. The topics covered in these articles include economic sustainability of energy use, healthcare management, strategic decision making and their implications.

In the first paper entitled 'Government policy and healthcare management: proposal of a shared decision-making model', we present a new decision-making platform, as a tool to facilitate shared decision making, to improve the quality and transparency of tactical and strategic decisions. This new analytic quantitative method is a component of a wider distributed web system under development, which aims to inform the new effective health technologies supporting designers in the user need elicitation and early

stage health technology assessments. A case study aiming to elicit the user needs affecting the decision of whether to adopt a new magnetic resonance imaging (MRI) is also presented. The main benefit from using the application is for the elicitors, which may not be particularly skilled in the use of the AHP method. The application has dramatically reduced the time to elicit questionnaires.

In their paper entitled 'Measuring economic sustainability of energy use: an ANP-based evaluation of some European Union countries and Turkey', Aylin Çiğdem Köne et al. present a new methodology for evaluating the economic sustainability of countries' energy systems. The aim of the work is to improve the decision support tools for policy makers as the scale and complexity of the global energy industry demands a country-by-country approach to managing change. The proposed participatory ANP model is applied to the five largest energy consumers in the European Union, namely: France, Germany, Italy, Spain and the UK plus Turkey – a candidate for the European Union. The analysis of the results obtained with the model allows policymakers to observe the influences of the elements and also the significance order of the criteria. Their study differs from the other studies in sustainable energy field since a participatory approach which involves expert judgement is used for the determination of the weights.

Tsyganok et al. propose an expert estimation mechanism, allowing experts to use scales of different accuracy for each pair-wise comparison. Relevance of the suggested approach is experimentally proven. They implement their approach in a decision support toolkit provided to decision-makers for evaluating the efficiency of activities of the National Space Programme of Ukraine. The proposed method improves the degree of correspondence between expert's estimates and their notions of examination subject. This improvement results from the fact that experts use scales, whose accuracy is most consistent with their competency in every issue under consideration. The suggested approach can be used as a tool for building strategies in different industries. The approach is especially relevant for industries, representing weakly structured domains, where one cannot rely only on quantitative data and tangible criteria.

In the last paper entitled 'Analytic hierarchy process as a ranking tool for decision making units', Jablonsky proposes an application of AHP for efficiency analysis of a general set of decision-making units (DMUs). Conventional tool for analysis of efficiency of DMUs is data envelopment analysis (DEA). The proposed approach is illustrated on performance evaluation of 19 Czech economic faculties. The results given by the AHP ration model are compared to those given by conventional approaches.

Finally, we would like to thank all the authors who submitted their manuscripts for this special issue as well as the referees who reviewed these papers for their efforts, time and invaluable suggestions. We also like to thank the Editor-in-Chief of *International Journal of Management and Decision Making*, Professor Dr. Madjid Tavana, and his team for this opportunity to serve as guest editors.