Almost all decisions people make are based on multiple factors or criteria. Decision makers generally pursue multiple, and often conflicting, objectives. A feasible solution that is optimum with respect to all such objectives or decision criteria almost never exists, and a satisfactory compromise solution is generally sought. Multi-criteria decision-making as a field of research deals with problem theory and solution approaches directly involving multiple decision criteria. Information technology and systems may help in dealing with such multi-criteria decision problems. This mini-track focuses on solution approaches, technology, and systems that support decision-making under consideration of multiple decision criteria.

This is the third time that this minitrack is included in the HICSS program, and five contributed papers have been accepted. The papers deal with a wide range of decision problems, from software component selection, to recommendations for location-based services. Furthermore, the relevance of trust in multi-criteria decision support, support for research proposal grouping, and skyline operation for multi-criteria decision support are investigated and discussed.

Becker, Kraxner, Plangg, and Rauber, in their paper on Improving Decision Support for Software Component Selection through Systematic Cross-referencing and Analysis of Multiple Decision Criteria discuss challenges and opportunities in using particular characteristics of scale in decision scenarios for software component selection. Building on an existing decision support framework, they formalize quality criteria so that they can be cross-referenced and analyzed across scenarios.

The paper by Xu, Xu, and Ma, titled An Ontology based Frequent Itemset Method to Support Research Proposal Grouping for Research Project Selection, introduces a novel approach to support grouping of research proposals to aid in research project selection. In this approach, first an ontology is constructed to standardize research keywords, and then a frequent itemset with various degrees of support is extracted from the research proposals, based on the ontology.

In their paper on Success of Multi Criteria Decision Support Systems: The Relevance of Trust, Maida, Maier, Obwegeser, and Stix present a consolidated view on different dimensions of trust and discuss the specific characteristics and dynamics of trust in multi-criteria decision support, based on a multidimensional model. They test the validity of their model with an empirical study, asking participants to complete a survey after using a specially developed decision aide.

Emrich, Chapko, and Werth, in their paper on Adaptive, Multi-criteria Recommendations for Location-based Services, analyze influence factors of mobile users for choice of interest. They derive an adaptable ranking function capable of adjusting preference weights on the influence factors, so as to learn from user behavior and evolve the knowledge base.

And finally, the paper by Chai, Liu, Yiu, Wang, and Li on A Novel Dynamic Skyline Operation for Multicriteria Decision Support investigates preference relations in skyline operations, a multi-criteria ranking procedure which generally relies on a predetermined preference system. The authors introduce the concept of preference intensity and propose a new decision model, the Tolerant Skyline operation, or T-skyline, which allows for dynamic decision preferences.