

## GUEST EDITORIAL PREFACE

# Special Issue on Advanced Methods and Techniques on Operational Research

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The following six articles are selected papers demonstrating the ways that advanced methods and techniques of Operational Research can assist organizations and businesses to improve their performance and deal with specific and usually difficult problems effectively and efficiently. A concise description of the six articles follows:

The first article entitled “EvoWebReg: Web-based course registration and optimization of student personal schedules with evolutionary algorithms” presents a complete and flexible course registration system through the Web which consists of three parts. The first part is a Web application which allows the students to submit their course preferences to the system’s database. The second part is an administrative tool that caters for its smooth operation, and the third part is an evolutionary algorithm which is responsible for the optimization of the student course schedules according to their submitted preferences and the constraints imposed by the department.

The second article entitled “A multivariate statistical assessment of the level of use of Information Systems in public sector services in Greece in order to oppose bureaucracy” deals with the competence of the non-IT specialists of the Greek public sector’s employees regarding the safe use of information system applications. This article also investigates the correspondence of the employees’ capabilities with variables like experience, adequate knowledge of a second language, age, and years of service. The data used in this study were gathered by means of a structured questionnaire and the analysis was conducted by employing multivariate methods and hierarchical classification.

The third article entitled “Greek construction project managers’ cognitive abilities, personality and knowledge” provides an insight on the perceptions of the Greek engineers regarding the construction project managers’ required abilities and knowledge. The authors, based on a structured questionnaire survey, produced a ranked list of skills, personality characteristics

and knowledge required for a Project Manager. More precisely cognitive abilities, personality characteristics and knowledge required for a successful project manager career were identified and their order of significance highlighted. The paper moved on and compared the survey's findings with the international literature. Finally, the study identified correlations among the profiles of the survey's participating engineers and their understanding and perception of the project managers' attributes.

The fourth article entitled "Can e-government applications contribute to performance improvement in public administration?" proposes that e-government applications need considerable changes in the way public administration organizes itself. Information management systems need to respond to user / citizen requirements effectively and efficiently. Currently the number of successful e-government applications is quite low when compared to the projects implemented and the resources invested in such systems. The authors propose the steps required so that future implementations will contribute to performance improvement in public administration.

The fifth article entitled "Understanding organized retail supply chain environment:

A confirmatory factor model" analyzes and classifies the factors affecting supply chain performance into three groups using factor analysis. The groups are strategic management, operations management, and environmental dynamics. The authors contend that focusing on the examined factors could assist organizations to further improve their supply chain performance.

Finally, the sixth article entitled "Modeling and simulation analyses of healthcare delivery operations for inter-hospital patient transfers" deals with inter-hospital transfers of patients. More specifically, the authors study the problem of healthcare delivery operations. They develop a model which satisfies all the transfer service requests while succeeding to minimize the transportation time. Moreover, simulation analyses are performed in order to study the fleet sizing problem as well as to evaluate different service performances with different numbers of vehicles.

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