

Foreword

The purpose of this book *Holistic Optimization Techniques in the Hospitality, Tourism and Travel Industry* is to deeply inquire, holistically reflect, and comprehensively expose this current and emerging cutting edge technology in important fields of investigation and facilities for original, innovative, and novel real-world applications of Optimization in the modern world related to the emerging area of the Hospitality, Tourism and Travel Industry. During the previous decades, the analytical tools and the methodological toolbox of computer science and applied mathematics, of informatics and statistics, of emerging analytics and information technologies has gained the attention of numerous researchers and practitioners from all over the world, providing a strong impact also in natural sciences, engineering, economics and finance, the IT sector and, since recent years, the industry of *hospitality, tourism and travel*. Here, Optimization is turning out to be a key technology from an integrated perspective, and it is closely connected with further areas of modern Operational Research such as Development, Societal Complexity and Ethics, in order to also appropriately address aspects of living conditions, culture and environment in relation with that new and fast growing industry.

Holistic optimization techniques are more and more well-known and used in research areas of engineering, science and technology. Current trends on application problems in engineering, science and technology are also expanded into the areas of economy, finance and, especially, into the hotel, tourism and travel industry across the globe. This book focuses on best and high-quality selected papers in a rich variety of research topics. Well-known and new methodologies of holistic optimization techniques have been used to resolve some of the complicated and hard problems in the areas of hotel, tourism and travel industry.

This book *Holistic Optimization Techniques in the Hospitality, Tourism, and Travel Industry* welcomed submissions by interested authors from hotel, hospitality and tourism management areas and from social science. It also invited for best chapters from the research areas of information technology and computer science which are related to hotel, tourism and travel industry. The book chapters focus on new development and contribution of current research to the body of the knowledge in the areas of hotel, tourism and travel industry, supported by internet and computer technology, Operational Research - and Optimization as one of its core fields. This book could become a helpful compendium for decision makers, managers, supervisors, executives, travelers, tourist, hoteliers, agents, researchers, directors, financiers, economics as well as industrialist.

The contributing authors of this book are experienced scientists and practitioners from all over the world; they use and further refine the deep model-based methods of mathematics and the less model-based, also so-called smart or intelligent algorithms with their roots in the engineering disciplines, in computer science, and informatics. The second ones are often called as heuristics and model-free; they

are less rigorous mathematically, released from firm calculus, in order to integrate nature- and, especially, bio-inspired approaches to efficiently cope with hard problems. The rise of these algorithms from Artificial Intelligence happened in parallel to the powerful progress in mathematics that is model-based mainly. Today, labeled by names like Statistical Learning and Machine Learning, Metaheuristics and Matheuristics, and by Operational Research, model-free and model-based streamlines of traditions and approaches meet and exchange in various centers of research, at important congresses, and in leading projects and agendas in all over the world to overcome misunderstandings and misperceptions between those two academic avenues, but to benefit from synergy effects, to jointly advance scientific progress and to provide a common service to the solution of urgent real-life challenges. Those huge problems exist in every area of the modern world and academics, in engineering, the economy, social sciences, life and human sciences, and development and the improvement of living conditions and future perspectives. Among the variety of these subjects and, in fact, including all of them, the editors selected the area of *Holistic Optimization Techniques in the Hospitality, Tourism, and Travel Industry*.

To all the authors of these valuable chapters, I extend my appreciation and gratitude for having shared their devotion, knowledge and vision with the academic community and mankind. I am very thankful to the publishing house IGI Global, and to the editor. Dr. Pandian Vasant, for having provided the chance for these experts to make public best achievements and contributions. I express my thankfulness to them for having ensured a premium book of a high standard academic, applied, and social importance!

Now, I wish all of you a lot of joy in reading this interesting work, and I hope that a great benefit is gained from it both personally and societally.

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