Guest Editorial Preface

Special Issue on ETMS2018 and ETMS2019:
"Performance Analysis and Evaluation in the Business Environment"

Gül Tekin Temur, Bahçesehir University, Turkey
Ferhan Çebi, Istanbul Technical University, Turkey
Ethem Çanakoğlu, Bahçesehir University, Turkey
Tankut Atan, Bahçeşehir University, Turkey

Business organizations continuously track different indicators of key operations or processes to identify efficiencies and adopt to best practices for increasing their productivity. The recent advances in computational methods and collection of a vast amount of data has evoked many alternatives as performance indicators. It gets more challenging when the performance metrics are complex, correlated and even hard to quantify. This special issue aims to explore various applications related to the performance evaluation in the business environment.

The study "Predicting Success of Tele-Marketing with Deep Learning" by Fatma Onay Kocoglu and Sakir Esnaf analyzes different machine learning algorithms for their success in telemarketing success rates. Using the hold-out and cross-validation methods they show that the best methods for prediction are deep learning and decision tree algorithms. Their study shows the possible uses of machine learning on increasing the sales from tele-marketing.

Tüzin Akçinar Günsari, Aysegül Kaya and Yeliz Ekinci address the uncertainty of parameters in order management and highlight the importance of forecasting these parameters. Their study entitled as "Forecasting Preliminary Order Cost to Increase Order Management Performance: A Case Study in Apparel Industry" proposes an artificial neural network-based algorithm to predict the actual order costs where a correct calculation can increase the profitability of the order and decrease the risk. They apply the methodology to apparel industry where there is a though competition and good predictions are vital.

Üstün Atak, Tolga Kaya and Yasin Arslanoglu in their paper titled "Analysing the Effects of Weather Conditions on Container Terminal Operations Using Machine Learning" analyze the real-time data of a container terminal operation with different machine learning techniques along with the Fuzzy C-Means (FCM) clustering method. This study indicates a proof that FCM clustering method could be used in maritime port operations with different scope.

In Nazli Ersoy's study entitled as "The Influence of Statistical Normalization Techniques on Performance Ranking Results: Application of New MCDM Method" compares normalization techniques in terms of their suitability to the new multi criteria decision making method. For this reason, the financial performances of the companies that ranked in the top 10 are evaluated with the help of the new multi criteria decision making method on the basis of seven financial ratios. This article figure out that max normalization procedure generated the most consistent results while Peldschus is the least consistent results for new multi criteria decision making method.

The paper titled as "A Methodology for Process Based Digitalization Opportunity and Priority Assessment (Dopa): Quality, Risk, and Digital Levels Combined in MCDM" authored by Nihan Yildirim, Oguz Ozbek, Birden Tulug, Almira Kahya, and Imran Ahioglu focuses on problem of "going digital" for industry 4.0. They analyze different models of digitalization initiative using quality, risk, and digital level criteria in an MCDM model. They validate the model using two real world industry cases.

Bersam Bolat and Koray Çırak conduct a questionnaire study concerning the sustainability factors that affect the software development process. Then the effect of these factors and the level of education, age, and experience of the people involved in the software development process on the software performance was investigated. As a result, it has been determined that the factors affecting the software development process in terms of sustainability and the descriptive attributes of the individual have an effect on software performance.

These articles are obtained by the call made for the special issue of the Engineering and Technology Management Summit 2018 & 2019 (ETMS2018 and ETMS2019). All the manuscripts have gone through an extensive double blind review process.

We believe that the articles included in this special issue will be guiding for both the practitioners and the academicians in the engineering management area with state-of-the-art models and problems. We would like to that Prof. John Wang making this special issue possible. We would also like to thank all the reviewers for their valuable comments in the review process.

Dr. Gül Tekin Temur graduated from Management Engineering Department of Istanbul Technical University in 2006 and she completed her Doctor of Philosophy at the same department. She has been still working in Bahcesehir University in the Industrial Engineering Department. Her main research interests are "Operations Management", "Supply Chain Management", "Reverse Logistics", "Decision Making".

Dr. Ferhan Çebi is a full Professor of Production and Operations Management within the Faculty of Management at Istanbul Technical University (ITU). She holds a B.S. in Chemical Engineering from ITU (1985), a M.S. in Management Engineering from ITU (June 1989), and a Ph.D. in Engineering Management (2007) from the same university. Her main research areas are mathematical modeling in production and service sectors and competitiveness usage of information technology.

Dr. Ethem Çanakoğlu received the B.S. degree in Electrical and Electronics Engineering, and the M.S. degree in Industrial Engineering from Bogaziçi University, and the Ph.D. degree in Industrial Engineering and Operations Management from Koç University. He is currently an associate professor in the Industrial Engineering Department of Bahçesehir University. After completing the Ph.D. degree, he was at Warwick Business School for three years as a Research Fellow. He utilized his expertise in stochastic modeling and optimization to different areas such as portfolio optimization, risk management in energy markets, or asset liability management. He has published several international papers in high-quality journals and supervised numerous theses. He has been awarded the Goodeve Medal in 2020.

Dr. Tankut Atan received his B.S., M.S. and Ph.D. degrees in Industrial Engineering from Boğaziçi University, Iowa State University, and Iowa State University respectively. After graduation, he worked at PROS, a leading pricing optimization company based in Houston, as a senior research scientist and product manager for several years. Upon returning to Turkey, he continued in academia, and is currently an associate professor in the Industrial Engineering Department of Bahçeşehir University in İstanbul. 'Scheduling and Sequencing', 'Mathematical Programming and Modelling', and 'Critical Thinking' are some courses he currently teaches. His research interests include scheduling, and Operations Research in sports.

Gül Tekin Temur
Ferhan Çebi
Ethem Çanakoğlu
Tankut Atan
Guest Editors
IJBAN