

Special Issue: Building Bridges between Researchers and Practitioners

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1. Introduction

This special issue of the Journal of Industrial Engineering and Management is focused on the most recent and relevant research, theories and practices in Industrial Engineering and Operations Management presented at the International Joint Conference (IJC2016).

This International Joint Conference is a result of an agreement between ADINGOR (Asociación para el desarrollo de la Ingeniería de Organización), ABEPRO (Associação Brasileira de Engenharia de Produção), IISE (Institute of Industrial & Systems Engineers) and AIM (European Academy for Industrial Management). The conference was organised by the Industrial Management Department at Tecnun (School of Engineering – University of Navarra).

The mission of the conference was to promote links between researchers and practitioners from different areas of industrial engineering and management in order to enhance the interdisciplinary perspective of the field.

We initially received 195 papers, and after a peer review process carried out by 136 international reviewers, 145 were selected for the conference. Forty of those papers were presented in posters sessions and 105 were presented in parallel sessions. This Special Issue gathers the 11 best oral presentations presented at the conference.

We gratefully acknowledge the authors and particularly the reviewers, whose valuable comments have improved the quality of the selected papers, which were extended after the conference in order to be published in this Special Issue.

2. Overview of the papers

The papers chosen for this Special Issue were selected for their quality, their rigor and their connection with the Special Issue's motto Building bridges between researchers and practitioners. They also represent the multidisciplinary character of the conference as well as its international scope. The papers selected for this Special Issue are organized as follows:

M. Cardós, E. Guijarro and E. Babiloni in “Fill Rate Estimation in Periodic Review Policies with Lost Sales using Simple Methods” focus the paper on estimating stock levels. They explain different methods to estimate the fill rate and they assess their performance. Moreover, they propose a new double-step simple method. O. Durán, I. Roda and M. Macchini in their article “Linking the Spare Parts Management with the Total Ownership Costs: An Agenda for Future Research”, discuss the integration of spare parts management with the Total Ownership Cost (TOC) model. The authors enumerate different managerial decisions which can occur during the life cycle of a physical asset and analyse how these decisions can affect the TOC of this asset. It is an interesting proposal that links the Life Cycle Cost of Spare Parts with their management.

A. Santana and P. Afonso also focus their research on the concept of costs. Their paper “Application of the TDABC Model in the Logistics Process Using Different Capacity Cost Rates” analyses the logistic process of an organization in terms of cost and profitability. For this purpose they apply the Time Driven Activity Based Costing (TDCBC) model in a distribution centre for wood and carpentry. Their study provides a base for analysing logistics costs in other similar cases.

In “Supply Chain Collaboration: A Game-Theoretic Mechanism for Profit Allocation” by B. Ponte, R. Rosillo, J. Parreño, J. Lozano and N. García, they propose that supply chains adopt an efficient collaborative solution by creating a framework for aligning incentives based on Game Theory. This framework has been validated numerically by replicating the idea through a numerical example using the Beer Game scenario.

The paper by F. Facchini, F. Boenzi, S. Digiesi, G. Mossa and G. Mummolo also deals with logistics activities, but in this case the focus is on environmental terms. “Minimizing the Carbon Footprint of Material Handling Equipment: Comparison of Electric and LPG forklifts” measures and analyses the environmental impact of different material handling equipment for inbound logistics activities, depending on the weight of the loads to be handled and the type of warehouse.

Shifting to the concept of the Circular Economy, a strategy whose adoption is going to be a major challenge for organizations in the coming decades, M. Ormazábal, V. Prieto-Sandoval, C. Jaca and J. Santos explain in “An Overview of the Circular Economy among SMEs in the Basque Country. A Multiple Case

Study” what the Circular Economy paradigm is, and they analyse how this concept is extended in Basque SMEs. A topic that is not original but remains a major organizational challenge is employee participation in continuous improvement systems. D. Jurburg, E. Viles, M. Tanco, R. Mateo and A. Lleó address this research topic in a practical way in “Measure to Succeed: How to Improve Employee Participation in Continuous Improvement”. They present an innovative diagnostic tool for measuring the different factors that affect employee participation and apply it in two different scenarios.

Another paper related to people in an organization is presented by R. de la Torre, A. Lusa and M. Mateo in “Evaluating the Impact of Strategic Personnel Policies Using an MILP model. The Public University Case”, they address the impact that personnel policies on promotion have on the size and composition of the workforce. They apply the Mixed Integer Linear Programming model (MILP) to the public university case.

This Special Issue contains two articles which deal with the topic of process improvement. In “ISO 9001 Aspects Related to Performance and Their Level of Implementation”, J. Castelló, R. De Castro and G. Gimenez contribute to this area by presenting roadmaps for improving ISO 9001 implementation levels from a customer’s point of view. The other paper, “Managing Waiting Times to Predict No-shows and Cancellations at a Children’s Hospital”, which is by M. Rodríguez-García, A. McLean, J.C. Prado-Prado and P. Domínguez-Caamaño presents a real case study showing the increase in profitability within this organization by better managing wasted time. Finally, this Special Issue would be remiss if it did not include an article that addresses the Industry 4.0 paradigm. In this case, J. Ganzarain and N. Errasti propose in “Three Stage Maturity Model in SMEs towards Industry 4.0” a novel model to guide and train SME companies in taking on new opportunities within the paradigm of Industry 4.0.

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