

## Special Issue

# Industrial Engineering: Overcoming the Crisis. CIO2012

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### 1. Introduction

This special issue of the Journal of Industrial Engineering and Management contains a selection of the papers that were accepted at the CIO2012 International Conference, developed in Vigo (Spain) under the motto “*Industrial Engineering: Overcoming the Crisis*”.

CIO 2012 gives continuity to the series of annual Conferences initiated in September 1986 in La Rábida (Huelva, Spain). This conference is a very significant scientific event in Business & Operations Management and related areas. Researchers, academics, scientists and managers of diverse parts of the world have the opportunity to exchange experiences, new ideas and topics, in those fields related to Industrial Engineering.

The 6<sup>th</sup> International Conference addresses the great multidisciplinary field formed by Industrial Engineering, from an international point of view.

The papers here presented cover a number of consolidated and emerging topics of the conference scope and they may help readers to gain a deeper understanding of how Industrial Engineering could contribute to overcome the economic crisis.

We would like to express our gratitude to all the authors, reviewers and the Organizing Committee for their enthusiastic work and magnificent support during CIO 2012.

### 2. Overview of the papers

The first paper, by J.M. Arias Calvo and J.M. Solana Álvarez, analyzes the characteristics that make information systems useful in gathering and processing information with the aim of

organizational learning and subsequent structural adaptation for better fitting to market requirements.

The second paper, by C. Rodríguez Monroy and A. Huerga, presents a study on the characteristics of the Micro Finance Institutions and try to shed some light on this subsector of the equity assets universe that may become important in the coming future.

The third paper, by B. Andrés and R. Poler, tries to identify the most relevant problems existing when SMEs have to deal with decentralized decisions. For this purpose, a methodology that allows researchers to identify the most relevant problems in the Non-Hierarchical manufacturing Networks is presented with the main aim of providing solutions in the future.

The fourth paper, by JR Farias Filho, L Barreto, A.A. Correa, A. A. Cunha, J.M. Gramacho and L.O. Monteiro, evaluates the collaborative development capacity and respective measurements of performance on the partnerships established between customers and suppliers, through qualitative research with a sample of Brazilian oil and gas market representatives.

The fifth paper, by C. Chackelson, A. Errasti, S. Martínez and J. Santos, explores the benefits obtained configuring different supply strategies adapted to customer needs using a case research from a Tier 2 point of view of the supply chain. The case research demonstrates that a higher service level, less holding costs and increased turnovers can be obtained implementing the adequate supply strategy.

The sixth paper, by J.I. Moliné and A.M. Coves, reviews twenty-one articles published since 2007 on the topic of order allocation in a multi-supplier environment. Furthermore, it provides an analysis that considers aims, results, model complexity and resolution procedures.

The seventh paper, by R. Segura-Andres, P. Gomez-Gasquet and C. Andres-Romano, provides a comprehensive review of the literature on the topic of lot streaming in a flow shop environment with makespan criteria. The paper reveals the types of problems that have been addressed up to date, and with what degree of satisfaction have been resolved.

The eighth paper, by M. Cardós, E. Babiloni, M. Palmer and E. Guijarro, focuses on the improvement of the inventory management of repairable parts of an airline company. It shows that an alternative heuristic approach outperforms the approach now use by the company, in terms of inventory value while fulfilling the target fill rate that has been set for repairable parts.

The ninth paper, by J. Maheut and J.P. Garcia-Sabater, addresses complete enumeration based on a stroke graph approach for operations supply network configuration and operations scheduling in the supply networks of a European company which assembles customized machine tools through several geographically distributed factories and delivers them to the customers' factory.

The tenth paper, by A. Duran, I. Garcia and M. Gutierrez, proposes an integrated computer-supported multi-staged approach to the flexible design and multicriteria evaluation of service infrastructure assigned processes/algorithms. This approach facilitates the flexible modelling/design of situation-specific assignment processes/algorithms and their performance assessment when facing their case-specific user population.

To finish with, the eleventh paper, by M.P. Cordero and R. Poler, examines the current methodologies and approaches developed to estimate carbon footprint in supply chains and the studies existing in the literature review about the application of these methodologies and other new approaches proposed by some authors.

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