


Studies in Systems, Decision and Control 435


Jorge Luis García Alcaraz
Arturo Realyvásquez Vargas *Editors*

Algorithms and Computational Techniques Applied to Industry

 Springer

Editors

Jorge Luis García Alcaraz 
Department of Industrial Engineering
Universidad Autónoma de Ciudad Juárez
Ciudad Juarez, Chihuahua, Mexico

Arturo Realyvásquez Vargas 
Department of Industrial Engineering, I.T.
Tijuana
Tecnológico Nacional de México
Tijuana, Baja California, Mexico

ISSN 2198-4182 ISSN 2198-4190 (electronic)
Studies in Systems, Decision and Control
ISBN 978-3-031-00855-9 ISBN 978-3-031-00856-6 (eBook)
<https://doi.org/10.1007/978-3-031-00856-6>

© The Editor(s) (if applicable) and The Author(s), under exclusive license to Springer Nature Switzerland AG 2022

This work is subject to copyright. All rights are solely and exclusively licensed by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors, and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, expressed or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Springer imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Analyzing Supply Quality Improvements in ETO Companies That Switch to Mass Customization via AI Techniques



Francisco Javier Bermejo Ramírez de Esparza, Jorge Luis García Alcaraz,
Juan Carlos Sáenz Díez-Muro, Eduardo Martínez Cámara,
Emilio Jiménez Macías, and Julio Blanco Fernández

Keywords Multivariate analysis · Engineering to order · Mass customisation · Supply management · Early purchasing involvement · Multidisciplinary teams of design assessment

F. J. B. Ramírez de Esparza · J. C. Sáenz Díez-Muro · E. Jiménez Macías
Department of Electrical Engineering, University of La Rioja, Edificio Departamental—C/Luis de Ulloa, 20, 26004 Logroño, La Rioja, Spain
e-mail: juan-carlos.saenz-diez@unirioja.es

E. Jiménez Macías
e-mail: emilio.jimenez@unirioja.es

E. Martínez Cámara · J. Blanco Fernández
Department of Mechanical Engineering, University of La Rioja, Edificio Departamental—C/Luis de Ulloa, 20, 26004 Logroño, La Rioja, Spain
e-mail: eduardo.martinez@unirioja.es

J. Blanco Fernández
e-mail: julio.blanco@unirioja.es

J. L. García Alcaraz (✉)
Department of Industrial and Manufacturing Engineering, Autonomous University of Ciudad Juárez, Av. Del Charro 450 Norte, Col. Partido Romero, 32310 Ciudad Juárez, Chihuahua, México
e-mail: jorge.garcia@uacj.mx