

ISSN: 2160-8830 Volume 14, Number 5, September 2024



American Journal of Operations Research



ISSN: 2160-8830



<https://www.scirp.org/journal/ajor>

Journal Editorial Board

ISSN 2160-8830 (Print) ISSN 2160-8849 (Online)
<https://www.scirp.org/journal/ajor>

Editor-in-Chief

Prof. Jinfeng Yue

Middle Tennessee State University, USA

Editorial Advisory Board

Prof. Bintong Chen
Prof. Wade D. Cook
Prof. Shu-Cherng Fang
Prof. Panagiotis Kouvelis
Prof. Lawrence M. Seiford

University of Delaware, USA
York University, Canada
North Carolina State University, USA
Washington University in St. Louis, USA
University of Michigan, USA

Editorial Board

Dr. Eman Ahmed Aly Ismail
Dr. Javier De Andrés
Prof. Janine E. Aronson
Dr. Annamaria Barbagallo
Prof. Atac Bascetin

College of International Transport & Logistics, Egypt
University of Oviedo, Spain
University of Georgia, USA
University of Naples “Federico II”, Italy
Mining Engineering Department, Engineering Faculty, Istanbul University
Cerrahpasa, Türkiye

Dr. Nabil Belacel
Prof. Ignacio Castillo
Prof. Xu Chen
Dr. Carlos Cruz Corona
Prof. Muhammad El-Taha
Dr. Carmen Galé
Prof. Xianghua Gan
Prof. Bibhas Chandra Giri
Prof. Said Ali Hassan El-Quliti
Prof. Xiuli He
Prof. Mhand Hifi
Prof. Myron Hlynka
Dr. Kai Huang
Prof. Zhimin Huang
Prof. Zhibin Jiang
Dr. Ricardo Josa-Fombellida
Prof. Nguyen Khac Minh
Dr. Santosh Kumar
Prof. Dennis Leech
Prof. Ulrike Leopold-Wildburger
Prof. Dengfeng Li
Prof. Liang Liang
Dr. Pedro Lorca
Prof. Sanat Kumar Mahato
Dr. Patrick R. McMullen
Dr. Vishnu Narayan Mishra
Dr. Sankar Prasad Mondal
Prof. Charles L. Munson
Dr. Jamal Ouenniche
Prof. Joaquín Antonio Pacheco Bonrostro
Prof. Javier Ramirez Rodriguez
Prof. Bhaba R. Sarker
Dr. Muhammad Mujtaba Shaikh
Prof. Renduchintala Raghavendra Kumar Sharma
Dr. Chunming (Victor) Shi
Prof. Andranik Tangian
Prof. Etsuji Tomita
Prof. Delfim F. M. Torres
Dr. Manish Verma
Dr. Yu Amy Xia
Dr. Gongxian Xu
Dr. Shenghan Xu
Prof. Farouk Yalaoui
Dr. Jiping Yang
Dr. Shilei Yang
Prof. Walid Tawfik Younes Mohamed
Dr. Xiaohang Yue
Prof. Zike Zhang

NRC Institute for Information Technology, Canada
Wilfrid Laurier University, Canada
University of Electronic Science and Technology of China, China
Department of Computer Science and Artificial Intelligence, University of Granada, Spain
University of Southern Maine, USA
University of Zaragoza, Spain
Southwestern University of Finance and Economics, China
Jadavpur University, India
Cairo University, Egypt
The University of North Carolina at Charlotte, USA
University of Picardie Jules Verne, France
Department of Mathematics and Statistics, University of Windsor, Windsor, Canada
DeGroote School of Business, McMaster University, Canada
Adelphi University, USA
Shanghai Jiao Tong University, China
University of Valladolid, Spain
Thang Long University, Vietnam
RMIT University, Australia
University of Warwick, UK
University of Graz, Austria
Fuzhou University, China
University of Science and Technology of China, China
University of Oviedo, Spain
SidhoKanhoBirsha University, India
School of Business, Wake Forest University, USA
Indira Gandhi National Tribal University, India
Maulana Abul Kalam Azad University of Technology, India
Washington State University, USA
University of Edinburgh, UK
University of Burgos, Spain
The Metropolitan Autonomous University, Mexico
Louisiana State University, USA
Mehran University of Engineering and Technology, Pakistan
IIT Kanpur, India
Wilfrid Laurier University, Canada
Karlsruhe Institute of Technology, Germany
The University of Electro-Communications, Japan
University of Aveiro, Portugal
McMaster University, Canada
Northeastern University, USA
School of Mathematical Sciences, Bohai University, China
University of Idaho, USA
University of Technology of Troyes (UTT), France
Beihang University, China
Southwestern University of Finance and Economics, China
Cairo University, Egypt
University of Wisconsin-Milwaukee, USA
Alibaba Research Center for Complexity Sciences, Hangzhou Normal University, China

Table of Contents

Volume 14 Number 5

September 2024

**A Note on a One-Parameter Weibull Distributed Deteriorating Item EOQ
Inventory Model with Varying Quadratic Demand and Delay in Payments**

T. Singh, I. Rout, A. K. Nayak..... 151

American Journal of Operations Research (AJOR)

Journal Information

SUBSCRIPTIONS

The *American Journal of Operations Research* (Online at Scientific Research Publishing, <https://www.scirp.org/>) is published bimonthly by Scientific Research Publishing, Inc., USA.

Subscription rates:

Print: \$79 per issue.

To subscribe, please contact Journals Subscriptions Department, E-mail: sub@scirp.org

SERVICES

Advertisements

Advertisement Sales Department, E-mail: service@scirp.org

Reprints (minimum quantity 100 copies)

Reprints Co-ordinator, Scientific Research Publishing, Inc., USA.

E-mail: sub@scirp.org

COPYRIGHT

Copyright and reuse rights for the front matter of the journal:

Copyright © 2024 by Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY).

<http://creativecommons.org/licenses/by/4.0/>

Copyright for individual papers of the journal:

Copyright © 2024 by author(s) and Scientific Research Publishing Inc.

Reuse rights for individual papers:

Note: At SCIRP authors can choose between CC BY and CC BY-NC. Please consult each paper for its reuse rights.

Disclaimer of liability

Statements and opinions expressed in the articles and communications are those of the individual contributors and not the statements and opinion of Scientific Research Publishing, Inc. We assume no responsibility or liability for any damage or injury to persons or property arising out of the use of any materials, instructions, methods or ideas contained herein. We expressly disclaim any implied warranties of merchantability or fitness for a particular purpose. If expert assistance is required, the services of a competent professional person should be sought.

PRODUCTION INFORMATION

For manuscripts that have been accepted for publication, please contact:

E-mail: ajor@scirp.org



Call for Papers

American Journal of Operations Research

ISSN 2160-8830 (Print) ISSN 2160-8849 (Online)

<https://www.scirp.org/journal/ajor>

AJOR is an international scientific journal dedicated to the publication and public discussion of high quality, original papers that contribute to the methodology of operational research and to the practice of decision making.

Editor-in-Chief

Prof. Jinfeng Yue

Middle Tennessee State University, USA

Editorial Board

Dr. Eman Ahmed Aly Ismail
Dr. Javier De Andrés
Prof. Janine E. Aronson
Dr. Annamaria Barbagallo
Prof. Atac Bascetin
Dr. Nabil Belacel
Prof. Ignacio Castillo
Prof. Xu Chen
Dr. Carlos Cruz Corona
Prof. Muhammad El-Taha
Dr. Carmen Galé
Prof. Xianghua Gan
Prof. Bibhas Chandra Giri
Prof. Said Ali Hassan El-Quliti
Prof. Xiuli He
Prof. Mhand Hifi
Prof. Myron Hlynka
Dr. Kai Huang

Prof. Zhimin Huang
Prof. Zhibin Jiang
Dr. Ricardo Josa-Fombellida
Prof. Nguyen Khac Minh
Dr. Santosh Kumar
Prof. Dennis Leech
Prof. Ulrike Leopold-Wildburger
Prof. Dengfeng Li
Prof. Liang Liang
Dr. Pedro Lorca
Prof. Sanat Kumar Mahato
Dr. Patrick R. McMullen
Dr. Vishnu Narayan Mishra
Dr. Sankar Prasad Mondal
Prof. Charles L. Munson
Dr. Jamal Ouenniche
Prof. Joaquín Antonio Pacheco Bonrostro
Prof. Javier Ramirez Rodriguez

Prof. Bhaba R. Sarker
Dr. Muhammad Mujtaba Shaikh
Prof. Renduchintala Raghavendra Kumar Sharma
Dr. Chunming (Victor) Shi
Prof. Andranik Tangian
Prof. Etsuji Tomita
Prof. Delfim F. M. Torres
Dr. Manish Verma
Dr. Yu Amy Xia
Dr. Gongxian Xu
Dr. Shenghan Xu
Prof. Farouk Yalaoui
Dr. Jiping Yang
Dr. Shilei Yang
Prof. Walid Tawfik Younes Mohamed
Dr. Xiaohang Yue
Prof. Zike Zhang

Subject Coverage

This journal invites original research and review papers that address the following issues in operations research. Topics of interest include, but are not limited to:

1. Operations Research and Optimization Theory and Research Technical Approaches

Computational Intelligence and Information Management
Continuous Optimization
Decision Support Systems, Multi-Criteria Decision Methods
Discrete Optimization
Expert Systems
Heuristics Mathematical Programming
Networks
Queues
Simulation
Stochastic Models and Statistics
Time Series Analysis

2. Manufacturing and Service Operations Research

Forecasting
Inventory
Location
Logistics, Transportation Warehousing and Maintenance
Planning and Scheduling
Product and Service Design

Project Management
Quality Management
Revenue Management
Supply Chain Management

3. Interfaces with Other Disciplines

Community Operations Research
Complex Systems
Education Operations Research
Environmental and Energy Issues
Financial Engineering
Government Operations Research
Health Services Operations Research
Marketing Science
Military and Homeland Security
Operations Research in Nonprofit Organization
Policy Modeling and Public Sector OR
Productivity and Efficiency in the Public Sector
Sports Operations Research
Telecommunications and Networking

We are also interested in short papers (letters) that clearly address a specific problem, and short survey or position papers that sketch the results or problems on a specific topic. Authors of selected short papers would be invited to write a regular paper on the same topic for future issues of the AJOR.

Notes for Intending Authors

Submitted papers should not have been previously published nor be currently under consideration for publication elsewhere. Paper submission will be handled electronically through the website. All papers are refereed through a peer review process. For more details about the submissions, please access the website.

Website and E-mail

<https://www.scirp.org/journal/ajor>

E-mail: ajor@scirp.org

