Industrial Engineering and Management

Sharif

Summer 2022

Editor-in-Chief: Seyed Taghi Akhavan Niaki

This Journal is published under the auspices of Sharif University of technology, Office of the Vice-Chancellor-in-Charge of Research.

The Journal is published Semiannually in Farsi language, aiqms at establishing a relationship between scientists active in different branches of science and technology and, in particular, at providing a forum for exchange of knowledge between scientists and technologists related to scientific problems prevailing in contemporary society. The journal also strives to present practical and theoretical analyses of these issues and facilitates the circulation of modern scientific findings by scientists and researchers for practical application. In addition, "Sharif" publishes original papers focusing on issues of specific concern to universities, including research, technological advancements, and topics related to matters of higher education.

P.O.BOX 11155-8639 AZADI AVENUE, TEHRAN, I.R. IRAN Phone: (98-21) 66005419 - 66164093 Fax: (98-21) 66012983 http:// www. globalsciencejournals.com Web: http://journal.sharif.ir/

E-mail: pajouhesh@sharif.edu

CONTENTS

3 JOINT REPLENISHMENT OF PERISHABLE ITEMS WITH PARTIAL BACKORDER CONSIDERING DIRECT AND INDIRECT GROUPING APPROACHES

N. Baibordi and D. Mohammaditabar

- 15 REAL-TIME AMBULANCE RELOCATION MATHEMATICAL MODEL FOR EMERGENCY SYSTEM CONSIDERING MULTIPLE COVERAGE RANGE, RELOCATION COSTS, WORKLOAD LIMITATION, AND PRIORITIZATION OF EMERGENCY CALLS

 M. Hajiali, E. Teimoury and M.R. Rasouli
- 25 SUPPLY CHAIN REDESIGN FOR NEW PRODUCT DEVELOPMENT WITH DUAL-PRODUCT ROLLOVER STRATEGY (CASE STUDY HEADPHONE INDUSTRY)

A. Abdinejad, E. Teimoury and F.Pourmohammadi

37 SIMULATION BASED OPTIMIZATION IN MULTI-PRODUCT THREE-LEVEL PRODUCTION SYSTEM BY MULTIFUNCTIONAL MACHINES (CASE STUDY: SINGLE AND DOUBLE POLYETHYLENE PIPE AND FITTINGS)

A. Fattahi, S.M. Sajadi and S.A. Yazdani

- 51 A MATHEMATICAL MODEL FOR SELECTING INVESTMENT PROJECTS BASED ON SUSTAINABLE DEVELOPMENT GOALS IN THE FACE OF UNCERTAIN CONDITIONS AND LIMITED RESOURCES
 N. Zarrinpoor and M. Zarrinpoor
- 67 MONITORING AND FORECASTING QUALITY OF TWO-STAGE THYROID CANCER SURGERY USING RISK-ADJUSTED TIME VARYING STATE SPACE MODEL

M. Rasouli, R. Noorossana, Y. Samimi and K. Heidari

81 OPTIMIZATION OF GOLD CLOSED-LOOP SUPPLY CHAIN PERFORMANCE WITH EMPHASIS ON SOCIAL RESPONSIBILITIES UNDER UNCERTAINTY (CASE STUDY: ZARSHOURAN GOLD FACTORY)

M. Shafiei Nikabadi, A.R. Moghaddam, M. Kheyri and H. Shambayati

95 SUSTAINABLE MULTI-PERIOD HUB LOCATION: A DYNAMIC PROGRAMMING APPROACH

A. Khaleghi and A.R. Eydi

111 DESIGNING A RUN SUM CONTROL CHART FOR MONITORING MULTIVARIATE COEFFICIENT OF VARIATION IN THE PRESENCE OF MEASUREMENT ERRORS

M.M. Hemmati, A.H. Amiri and Z. Jalilibal

RESEARCH NOTE:

119 MATHEMATICAL MODELING AND FUZZY ε-CONSTRAINT METHOD FOR CLOSED-LOOP MASK SUPPLY CHAIN DESIGN
A.R. Goli and K. Kianfar

APPENDIX

136 ABSTRACTS OF PAPERS IN ENGLISH