

e-ISSN: 2459-1718



# Journal of Transportation and Logistics

<http://www.ijttl.com/>



Volume 7



Issue 1



2022



İSTANBUL  
UNIVERSITY  
PRESS



Available online at [www.ijtl.com](http://www.ijtl.com)

**JTL**

Journal of Transportation and Logistics  
7 (1) 2022



**Indexing and Abstracting / Dizinler**

TÜBİTAK-ULAKBİM TR Dizin

Open AIRE

DOAJ

ERIH PLUS

SOBİAD

EBSCO Central & Eastern European Academic Source





Available online at [www.iujtl.com](http://www.iujtl.com)



Journal of Transportation and Logistics  
7 (1) 2022



**Owner / Sahibi**

Prof. Dr. Abdullah OKUMUŞ

Istanbul University, School of Transportation and Logistics, Istanbul, Turkey  
*İstanbul Üniversitesi Ulaştırma ve Lojistik Fakültesi, İstanbul, Türkiye*

**Responsible Manager / Sorumlu Yazı İşleri Müdürü**

Prof. Dr. Mehmet ADAK

Istanbul University, School of Transportation and Logistics, Istanbul, Turkey  
*İstanbul Üniversitesi Ulaştırma ve Lojistik Fakültesi, İstanbul, Türkiye*

**Correspondence Address / Yazışma Adresi**

Istanbul University, Faculty of Transportation and Logistic,  
Avcılar Campus, 34320 Avcılar, Istanbul, Turkey

E-mail: [editor@iujtl.com](mailto:editor@iujtl.com)

<https://dergipark.org.tr/tr/pub/jtl>

<https://iupress.istanbul.edu.tr/en/journal/jtl/home>

**Publisher / Yayıncı**

Istanbul University Press / İstanbul Üniversitesi Yayınevi  
İstanbul Üniversitesi Merkez Kampüsü, 34452 Beyazıt, Fatih,  
İstanbul, Türkiye

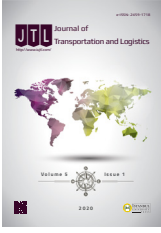
Phone / Telefon: +90 (212) 440 00 00

Authors bear responsibility for the content of their published articles.  
*Dergide yer alan yazılardan ve aktarılan görüşlerden yazarlar sorumludur.*

The publication language of the journal is English and Turkish.  
*Yayın dili İngilizce ve Türkçe'dir.*

This is a scholarly, international, peer-reviewed, open-access journal published biannually in April and October.  
*Nisan ve Ekim aylarında, yılda iki sayı olarak yayımlanan uluslararası, hakemli, açık erişimli ve bilimsel bir dergidir.*

Publication Type / Yayın Türü : Periodical / Yaygın Süreli



Available online at [www.ijtl.com](http://www.ijtl.com)



Journal of Transportation and Logistics  
7 (1) 2022



## EDITORIAL MANAGEMENT / DERGİ YAZI KURULU

### Editors-in-Chief / Baş Editörler

Prof. Dr. Mehmet ADAK

Istanbul University, Faculty of Transportation and Logistics, Department of Transportation and Logistics, Istanbul, Turkey – [mehmet.adak@istanbul.edu.tr](mailto:mehmet.adak@istanbul.edu.tr)

Assoc. Prof. Abit BALIN

Istanbul University, Faculty of Transportation and Logistics, Department of Transportation and Logistics, Istanbul, Turkey – [abitbalin@istanbul.edu.tr](mailto:abitbalin@istanbul.edu.tr)

### Co-Editors in Chief / Baş Editör Yardımcıları

Prof. Dr. Rasim İlker GÖKBULUT

Istanbul University, Faculty of Transportation and Logistics, Department of Transportation and Logistics, Istanbul, Turkey – [rasim.gokbulut@istanbul.edu.tr](mailto:rasim.gokbulut@istanbul.edu.tr)

Assoc. Prof. Erkan ÇELİK

Istanbul University, Faculty of Transportation and Logistics, Department of Transportation and Logistics, Istanbul, Turkey – [erkancelik@istanbul.edu.tr](mailto:erkancelik@istanbul.edu.tr)

Prof. Yi-Hsien WANG

Chinese Culture University, Department of Banking and Finance, Taipei, Taiwan – [wyx12@ulive.pccu.edu.tw](mailto:wyx12@ulive.pccu.edu.tw)

### Managing Editor / Yönetici Editör

Assist Prof. Bahadır Fatih YILDIRIM

Istanbul University, Faculty of Transportation and Logistics, Department of Transportation and Logistics, Istanbul, Turkey – [bahadirf.yildirim@istanbul.edu.tr](mailto:bahadirf.yildirim@istanbul.edu.tr)

### Language Editors / Dil Editörleri

Elizabeth Mary EARL

Istanbul University, Department of Foreign Languages, Istanbul, Turkey – [elizabeth.earl@istanbul.edu.tr](mailto:elizabeth.earl@istanbul.edu.tr)

Alan James NEWSON

Istanbul University, Department of Foreign Languages, Istanbul, Turkey – [alan.newson@istanbul.edu.tr](mailto:alan.newson@istanbul.edu.tr)

### Statistics Editor / İstatistik Editörü

Assoc. Prof. Burcu ADIGÜZEL MERCANGÖZ

Istanbul University, Faculty of Transportation and Logistics, Department of Transportation and Logistics, Istanbul, Turkey – [burcu@istanbul.edu.tr](mailto:burcu@istanbul.edu.tr)

## EDITORIAL BOARD / YAYIN KURULU

Prof. Dr. Abdullah OKUMUŞ

Istanbul University, Faculty of Business Administration, Department of Business Administration, Istanbul, Turkey – [okumus@istanbul.edu.tr](mailto:okumus@istanbul.edu.tr)

Prof. Dr. Ayşe Güldem CERİT

Dokuz Eylül University, Maritime Faculty, School of Maritime Business and Management, İzmir, Turkey – [gcerit@deu.edu.tr](mailto:gcerit@deu.edu.tr)

Prof. Dr. Bruce C.T. Ho

National Chung Hsing University, Institute of Technology Management, Taichung, Taiwan – [bruceho@nchu.edu.tw](mailto:bruceho@nchu.edu.tw)

Prof. Dr. Chelsea WHITE

Georgia Institute of Technology, Transportation and Logistics, Atlanta, GA, USA – [cwhite@isye.gatech.edu](mailto:cwhite@isye.gatech.edu)

Prof. Dr. Ergün EROĞLU

Istanbul University, Faculty of Business Administration, Department of Business Administration, Istanbul, Turkey – [eroglu@istanbul.edu.tr](mailto:eroglu@istanbul.edu.tr)

Prof. Dr. Goh MARK

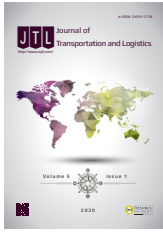
National University of Singapore, Department of Decision Sciences, School of Business, Singapore – [tligohkh@nus.edu.sg](mailto:tligohkh@nus.edu.sg)

Prof. Dr. Haluk KORKMAZYÜREK

Toros University, Faculty of Economics, Administrative and Social Sciences, Department of International Finance and Banking, Mersin, Turkey – [haluk.korkmazurek@toros.edu.tr](mailto:haluk.korkmazurek@toros.edu.tr)

Prof. Dr. Kannan GOVINDAN

University of Southern Denmark, Department of Technology and Innovation, Odense, Denmark – [kgov@iti.sdu.dk](mailto:kgov@iti.sdu.dk)



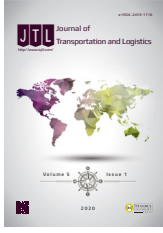
Available online at [www.ijtl.com](http://www.ijtl.com)



Journal of Transportation and Logistics  
7 (1) 2022



- Prof. Dr. Kulwant PAWAR  
University of Nottingham, Department of Operations Management and Information Systems, Nottingham, UK – [kulwant.pawar@nottingham.ac.uk](mailto:kulwant.pawar@nottingham.ac.uk)
- Prof. Dr. M. Mehdi AMINI  
Memphis University, Department of Marketing & Supply Chain Management, Memphis, TN, USA – [mamini@memphis.edu](mailto:mamini@memphis.edu)
- Prof. Dr. Malgorzata PANKOWSKA  
University of Economics, Department of Informatics, Katowice, Poland – [malgorzata.pankowska@ue.katowice.pl](mailto:malgorzata.pankowska@ue.katowice.pl)
- Prof. Dr. Mehmet TANYAS  
Maltepe University, Faculty of Business and Management Sciences, Department of International Trade and Logistics, Istanbul, Turkey – [mehmettanyas@maltepe.edu.tr](mailto:mehmettanyas@maltepe.edu.tr)
- Prof. Dr. Mukesh Kumar BARUA  
Indian Institute of Technology Roorkee, Department of Management Studies Uttarakhand, India – [mukesh.barua@ms.iitr.ac.in](mailto:mukesh.barua@ms.iitr.ac.in)
- Prof. Dr. Murat KIYILAR  
Istanbul University, School of Business, Department of Finance, Istanbul, Turkey – [muratkyy@istanbul.edu.tr](mailto:muratkyy@istanbul.edu.tr)
- Prof. Dr. Nachiappan SUBRAMANIAN  
University of Sussex, Business School, SPRU - Science Policy Research Unit, Brighton, Sussex House, Falmer Brighton, United Kingdom – [n.subramanian@sussex.ac.uk](mailto:n.subramanian@sussex.ac.uk)
- Prof. Dr. Ömer ÖZKAN  
Cyprus West University, Faculty of Law, Department of Law, Famagusta, North Cyprus – [ozkanhukuk@yahoo.com](mailto:ozkanhukuk@yahoo.com)
- Prof. Dr. Özcan KILIÇ  
University of Wisconsin-River Falls, College of Business and Economics, Department of Management and Marketing, River Falls, WI, USA – [ozcan.kilic@uwr.edu](mailto:ozcan.kilic@uwr.edu)
- Prof. Dr. Sadettin ÖZEN  
Maltepe University, Faculty of Business Administration and Management Sciences, Istanbul, Turkey – [sadettinozen@yahoo.com](mailto:sadettinozen@yahoo.com)
- Prof. Dr. Samuel Fosso WAMBA  
Toulouse Business School, Department of Information Systems and Data Science, Toulouse, France – [s.fosso-wamba@tbs-education.fr](mailto:s.fosso-wamba@tbs-education.fr)
- Prof. Dr. Sanjay MISRA  
Covenant University, Department of Electrical and Information Engineering, OTA, Nigeria – [sanjay.misra@covenantuniversity.edu.ng](mailto:sanjay.misra@covenantuniversity.edu.ng)
- Prof. Dr. Seung-Chul KIM  
Hanyang University, Department of Operations and Service Management, Seoul, Korea – [sckim888@hanyang.ac.kr](mailto:sckim888@hanyang.ac.kr)
- Prof. Dr. SiHyun PAIK  
Yanbian University of Science & Technology, School of Business, Yanji, Jilin, China – [shpaik@yust.edu](mailto:shpaik@yust.edu)
- Prof. Dr. Talha HARCAR  
Penn State University, Department of Business, Pennsylvania, USA – [tdh13@psu.edu](mailto:tdh13@psu.edu)
- Prof. Dr. Turan PAKSOY  
Necmettin Erbakan University, Faculty of Aeronautics and Astronautics, Department of Aviation Management, Konya, Turkey – [tpaksoy@erbakan.edu.tr](mailto:tpaksoy@erbakan.edu.tr)
- Prof. Dr. Vedat SARIKOVANLIK  
Istanbul University, School of Business, Department of Finance, Istanbul, Turkey – [vedsari@istanbul.edu.tr](mailto:vedsari@istanbul.edu.tr)
- Prof. Dr. Yavuz GÜNALAY  
Bahçeşehir University, Faculty of Economics, Administrative and Social Sciences, Department of Logistic Management, Istanbul, Turkey – [yavuz.gunalay@eas.bau.edu.tr](mailto:yavuz.gunalay@eas.bau.edu.tr)
- Prof. Dr. Tuncay ÇELİK  
Kayseri University, Faculty of Applied Sciences, Department of International Trade and Logistics, Kayseri, Turkey – [tcelik@kayseri.edu.tr](mailto:tcelik@kayseri.edu.tr)
- Assoc. Prof. Diego ESCOBARI  
University of Texas Rio Grande Valley, Department of Economics and Finance, Texas, USA – [diego.escobari@utrgv.edu](mailto:diego.escobari@utrgv.edu)



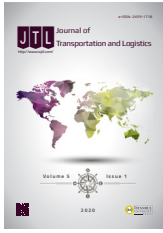
Available online at [www.ijtl.com](http://www.ijtl.com)



Journal of Transportation and Logistics  
7 (1) 2022



Assoc. Prof. Ebru DEMİRCİ	Istanbul University, Faculty of Transportation and Logistics, Department of Transportation and Logistics, Istanbul, Turkey – <a href="mailto:edemirci@istanbul.edu.tr">edemirci@istanbul.edu.tr</a>
Assoc. Prof. Eren ÖZCEYLAN	Gaziantep University, Faculty of Engineering, Department of Industrial Engineering, Gaziantep, Turkey – <a href="mailto:eozeceylan@gantep.edu.tr">eozeceylan@gantep.edu.tr</a>
Assoc. Prof. Eugene Y. C. WONG	Hang Seng University of Hong Kong, Department of Supply Chain and Information Management, Shatin, Hong Kong – <a href="mailto:eugene.wong@oocl.com">eugene.wong@oocl.com</a>
Assoc. Prof. Giovanni SATTA	University of Genoa, Genoa, Department of Economics, Italy – <a href="mailto:satta@economia.unige.it">satta@economia.unige.it</a>
Assoc. Prof. Gültekin ALTUNTAŞ	Istanbul University, Faculty of Transportation and Logistics, Department of Transportation and Logistics, Istanbul, Turkey – <a href="mailto:altuntas@istanbul.edu.tr">altuntas@istanbul.edu.tr</a>
Assoc. Prof. Hakan DEMİREL	Zonguldak Bülent Ecevit University, Maritime Faculty, Ship Machinery Management Engineering Department, Zonguldak, Turkey – <a href="mailto:hakandemirel@beun.edu.tr">hakandemirel@beun.edu.tr</a>
Assoc. Prof. Halit ÖZEN	Yıldız Technical University, Faculty of Civil Engineering, Department of Civil Engineering, Istanbul, Turkey – <a href="mailto:ozen@yildiz.edu.tr">ozen@yildiz.edu.tr</a>
Assoc. Prof. Lincoln C. WOOD	University of Otago, Department of Management, Dunedin, New Zealand – <a href="mailto:lincoln.wood@otago.ac.nz">lincoln.wood@otago.ac.nz</a>
Assoc. Prof. Muhammet GÜL	Munzur University, Faculty of Health Sciences, Department of Emergency Aid and Disaster Management, Tunceli, Turkey – <a href="mailto:muhammetgul@munzur.edu.tr">muhammetgul@munzur.edu.tr</a>
Assoc. Prof. Shao Hung GOH	Singapore University of Social Science, School of Business, Clementi, Singapore – <a href="mailto:shgoh015@unisim.edu.sg">shgoh015@unisim.edu.sg</a>
Assoc. Prof. Sigal KAPLAN	The Hebrew University of Jerusalem, Faculty of Social Sciences, The Department of Geography, Jerusalem, Israel – <a href="mailto:sigal.kaplan@mail.huji.ac.il">sigal.kaplan@mail.huji.ac.il</a>
Assoc. Prof. Syed Masiur RAHMAN	King Fahd University of Petroleum & Minerals, Center for Environment & Water Research Institute, Dhahran, Saudi Arabia – <a href="mailto:smrahman@kfupm.edu.sa">smrahman@kfupm.edu.sa</a>
Assoc. Prof. Taih-Cherng LIRN	National Taiwan Ocean University, Department of Shipping and Transportation Management, Keelung, Taiwan – <a href="mailto:tedlirn@email.ntou.edu.tw">tedlirn@email.ntou.edu.tw</a>
Assoc. Prof. Xiaolei WANG	Tongji University, School of Economics and Management, Shanghai, China – <a href="mailto:xlwangiris0420@gmail.com">xlwangiris0420@gmail.com</a>
Assoc. Prof. Zehra BOZBAY	Istanbul University, School of Business, Department of Marketing, Istanbul, Turkey – <a href="mailto:zehrat@istanbul.edu.tr">zehrat@istanbul.edu.tr</a>
Assoc. Prof. Wei LI	Central South University, School of Civil Engineering, Department of Railway Engineering, Changsha, China – <a href="mailto:leewei@csu.edu.cn">leewei@csu.edu.cn</a>
Asst. Prof. Özge Nalan BİLİŞİK	Yıldız Technical University, Department of Industrial Engineering, Istanbul, Turkey – <a href="mailto:oznalan@yildiz.edu.tr">oznalan@yildiz.edu.tr</a>
Asst. Prof. Banu Yüksel ÖZKAYA	Hacettepe University, Faculty of Engineering, Department of Industrial Engineering, Ankara, Turkey – <a href="mailto:byuksel@hacettepe.edu.tr">byuksel@hacettepe.edu.tr</a>
Dr. Cafer AVCI	Yalova University, Faculty of Engineering, Department of Computer Engineering, Yalova, Turkey – <a href="mailto:cafer.avci@yalova.edu.tr">cafer.avci@yalova.edu.tr</a>
Dr. Melike ERDOĞAN	Düzce University, Faculty of Engineering, Department of Industrial Engineering, Düzce, Turkey – <a href="mailto:melikeerdogan@duzce.edu.tr">melikeerdogan@duzce.edu.tr</a>
Dr. Rahimeh NEAMATIAN MONEMI	University of Southampton, Business School Southampton, CORMSIS Centre for Operational Research, Southampton, United Kingdom – <a href="mailto:r.n.monemi@gmail.com">r.n.monemi@gmail.com</a>



Available online at [www.ijtl.com](http://www.ijtl.com)

**JTL**

Journal of Transportation and Logistics  
7 (1) 2022



## CONTENTS

### RESEARCH ARTICLES / ARAŞTIRMA MAKALELERİ

The Liberalization Effect on Air Transport Expenditure Choices of Turkish Households:  
The Perspective of Micro Data Analysis

**Gizem Kaya Aydın, Hidayet Beyhan, Umur Aydın, Berker Pandır..... 1**

Risks in Road Transportation of Sport Horses: the Case of Turkey

**Elnaz Taghizadeh Alamdari, Bengü Sevil Oflaç, Aysu Göçer..... 19**

Determining the Effectiveness of the Bus Lines in Urban Transportation using Data Envelopment  
Analysis

**Ahmet Atalay, Ömer Faruk Bircik ..... 37**

Otomobil Motor Yağı Alternatiflerinin FUCOM, MAIRCA, MABAC ve BWM Yöntemleri ile  
Değerlendirilmesi

Evaluation of Automobile Engine Oil Alternatives with FUCOM, MAIRCA, MABAC and BWM  
Methods

**Volkan Genç, Aşkın Özdağoğlu, Murat Kemal Keleş..... 55**

A Priority Analysis on Emission Reduction Strategies in Foreland and Hinterland of Ports

**Umur Bucak ..... 83**

Akıllı ve Sürdürülebilir Tedarik Zinciri Yönetiminin Hazırlık ve Olgunluk Düzeyinin Değerlendirilmesi  
için Geometrik Ortalamaya Dayalı Yeni Bir Model Önerisi

A New Evaluation Model for the Readiness and Maturity Level of Intelligent and Sustainable  
Supply Chain Management Based on Geometric Mean

**Sercan Demir, Mehmet Akif Gündüz, Turan Paksoy..... 95**

Lojistik Servis Sağlayıcılarının Hizmet Kalitesi Boyutlarının SERVQUAL Temelli Best-Worst Yöntemi  
Kullanılarak Önceliklendirilmesi

Prioritizing the Service Quality Dimensions of Logistics Service Providers Using SERVQUAL-Based  
Best-Worst Method

**Ertuğrul Ayyıldız..... 117**

Examining the Efficiency of Automation in Container Terminals

**Yaser Jobran, Gökhan Kara ..... 137**

Determining Maritime Health Online Training Needs for Seafarers and Doctors in Maritime  
Transportation

**Seher Suendam Arıcı, Esmâ Uflaz, Emre Akyüz, Özcan Arslan..... 157**

Determination of Officer of the Watch Selection Criteria for Ship Types

**Ozan Hikmet Arıcan, Olgay Okşaş ..... 169**

### CASE STUDY / OLGU ÇALIŞMASI

Türkiye’de Transit Sisteminde Teminat Uygulamaları ve Risk Yönetimi: Tobbund Örneği

Guarantee Practices and Risk Management Modalities of the Turkish Transit System: the  
Tobbund Case

**Mehmet Uylukçu, Gülvade Akdemir, Duygu Korucuş ..... 185**

