

## Prof. HASAN BAL

### Personal Information

**Email:** hasanbal@gazi.edu.tr

**Web:** <https://avesis.gazi.edu.tr/hasanbal>

### Education Information

Doctorate, Gazi University, Turkey 1981 - 1986

Doctorate, Gazi University, Fen Bilimleri Enstitüsü, İstatistik (Dr), Turkey 1980 - 1986

Under Graduate, Hacettepe University, Fen Fakültesi, Matematik Bölümü, Turkey 1974 - 1979

Under Graduate, Hacettepe University, Fen Fakültesi, Matematik Bölümü, Turkey 1974 - 1979

### Research Areas

Natural Sciences

### Academic Titles / Tasks

Professor, Gazi University, Fen Fakültesi, İstatistik Bölümü, 2002 - Continues

Associate Professor, Gazi University, Fen Fakültesi, İstatistik Bölümü, 1994 - 2002

Assistant Professor, Gazi University, Fen Fakültesi, İstatistik Bölümü, 1986 - 1994

Research Assistant, Gazi University, Fen Fakültesi, İstatistik Bölümü, 1980 - 1986

### Professional Experience

Head of Department, Gazi University, Fen Fakültesi, İstatistik Bölümü, 1987 - 2020

Head of Department, Gazi University, Fen Fakültesi, İstatistik Bölümü, 2016 - 2019

Dean, Gazi University, Fen Fakültesi, 2016 - 2017

### Advising Theses

BAL H., ÇOKLU SINIFLANDIRMA PROBLEMLERİNE ÖNERİLEN YENİ MODELLER, Doctorate, Z.TÜZÜNER(Student), 2020

BAL H., Dinamik network veri zarflama analizi modellerinde bootstrap yaklaşımı, Doctorate, V.SONER(Student), 2019

BAL H., Stokastik sınır yöntemi ve vza kullanılarak türkiye'deki havaalanlarının etkinliğinin ölçülmesi, Post Graduate, E.ÖZTÜRK(Student), 2019

BAL H., Türkiye'deki devlet üniversitelerinin performanslarının iki aşamalı veri zarflama analizi ile incelenmesi, Post Graduate, E.KOÇAK(Student), 2019

BAL H., Interval And Parametric Linear Programming And Fuzzy Data Envelopment Analysis - Neural Approach Models With The Application In Turkish Banks, O.Abdulrahman(Student), 2018

BAL H., Fuzzy Data Envelopment Analysis Model Development And Application, A.Gölcükcü(Student), 2017

BAL H., Bulanık veri zarflama analizi model geliştirme ve uygulaması, Doctorate, A.GÖLCÜKCÜ(Student), 2017

BAL H., Derivatives In Turkish Banking Sector And Analysis Of Factors Affecting Derivatives Usage, C.Çağlar(Student), 2015

BAL H., Financial analysis of non-banking financial institutions in Turkey, M.Bekar(Student), 2014

BAL H., Evaluation of the incentive legislation about its impact on increasing employment, O.Akgül(Student), 2014

BAL H., New archimedean copulas family and their applications in finance, V.Najjari(Student), 2014

BAL H., The brand's financial value and a practice in manufacturing firm, D.Altay(Student), 2014

BAL H., The efficiency of Turkish banking sector for 2008-2013 Period with DEAMalmquist TFP endexs and Multimoora, Post Graduate, M.BEKAR(Student), 2014

BAL H., Economic value added as a performance measurement tool: An application on banks treated in BİST, G.Yazgan(Student), 2014

BAL H., The role of Mortgage in the 2008 World Financial Crisis and investigation of effect of financial crisis on Turkish economy, N.Ghorban(Student), 2014

BAL H., Measurement of entrepreneurship: A proposal for regional entrepreneurship index for Turkey, M.Caner(Student), 2013

BAL H., Turkish energy market, sector risk analysis of Turkish natural gas distribution market and calculating the cost of capital of a special natural gas distribution firm, S.Özbilgin(Student), 2011

BAL H., The assesment of the performance of the police forces with data envelopment analysis, Post Graduate, K.ESRA(Student), 2011

BAL H., MARKA DEĞERİ HESAPLAMA TEKNİKLERİNİN İNCELENMESİ VE UYGULAMALI OLARAK KARSILASTIRILMASI, K.Emre(Student), 2010

BAL H., DATA ENVELOPMENT ANALYSIS and CROSS EFFICIENCY, Post Graduate, E.ŞEHNAZ(Student), 2010

BAL H., Ayırma analizine matematiksel programlama ve yapay sinir ağları yaklaşımları, Doctorate, H.HASAN(Student), 2009

BAL H., vi MATHEMATICAL PROGRAMMING AND ARTIFICIAL NEURAL NETWORK APPROACHES TO DISCRIMINANT ANALYSIS, H.ÖRKÜ(Student), 2009

BAL H., AN APPROACH OF LINEAR GOAL PROGRAMMING WITH PRIORITY FOR IMPROVING WEIGHT DISPERSION IN THE DATA ENVELOPMENT ANALYSIS, Post Graduate, Ö.SARIKAYA(Student), 2009

BAL H., A RESEARCH ON CLASSIFICATION AND DETERMINING THE EFFECTIVENESS OF BANKS OPERATING IN TURKEY, Post Graduate, B.BEKTAŞ(Student), 2007

BAL H., Veri zarflama analizi ve temel bileşenler analizi ile Avrupa Birliği ülkelerinin sıralanması, Post Graduate, N.ASLANKARAOĞLU(Student), 2006

BAL H., Veri zarflama analizi ve malmquist toplam faktör verimliliği endeksi ile Türkiye'deki illerin tarım etkinliklerinin incelenmesi, Post Graduate, U.ÖZOK(Student), 2006

BAL H., Hedef programlama ile portföy optimizasyonu, Post Graduate, H.İBRAHİM(Student), 2006

BAL H., Kliniklerin etkinliklerinin ölçülmesi ve kullanılan tıbbi cihaz sayılarının etkinliğe etkisinin tobit modelleme ile bulunması, Post Graduate, Y.YILDIRIM(Student), 2005

BAL H., 0-1 çok amaçlı doğrusal programlama probleminin çözümlerinde kullanılan L1 yöntemi ve etkinlik analizi, Post Graduate, S.ÇALIK(Student), 2005

BAL H., Veri Zarflama Analizi (Data Envelopment Analysis - DEA) ve göreceli etkinlik analizi üzerine bir uygulama, Doctorate, O.KAYNAR(Student), 2004

BAL H., Etkinlik analizinde ağırlık dağılımı problemine çok kriterli bir yaklaşım, Post Graduate, H.ÖRKÜ(Student), 2004

BAL H., Üniversite gençliğinin iş seçimi probleminde analitik hiyerarşi süreci, Post Graduate, T.ALPOĞLU(Student), 2003

BAL H., Etkinlik analizi 1950-1999 yılları arası Türkiye sosyoekonomik etkinliği uygulaması, Post Graduate, A.GÖLCÜKCÜ(Student), 2003

BAL H., Ayırma analizi ve veri zarflama analizi ilişkisi, Post Graduate, E.ALPARSLAN(Student), 2003

BAL H., Veri zarflama analizi ve bankacılık sektöründe uygulamaları, Post Graduate, A.KUDRET(Student), 2002

BAL H., Etkinlik analizi ve Sağlık Bakanlığı hastanelerinde bir uygulama, Post Graduate, S.ARSLAN(Student), 2002

BAL H., 0-1 tamsayılı hedef programlama tabanlı asistan doktor çizelgeleme modeli, Post Graduate, İ.VAROL(Student), 2001

BAL H., Bulanık matematiksel programlama ve bir uygulama, Doctorate, T.ŞENEL(Student), 2000

BAL H., Personel nitelikleri açısından benzer karakterli harp gemilerinin oluşturulması için heuristik yaklaşım ve hedef programlama, Post Graduate, T.ÖZTÜRK(Student), 1999

BAL H., Doğrusal tamsayılı hedef programlama ve bir uygulama, Post Graduate, İ.ÖZLER(Student), 1999

- BAL H., Hedef programlama ve bulanık hedef programlama tekniklerinin karşılaştırılması-üretim planlama problemine bir uygulama, Post Graduate, S.TEKE(Student), 1998
- BAL H., MKE Kurumunda metal iş kolunda çalışan işçilerin iş kazaları ve kazaların istatistiksel analizi, Post Graduate, S.YILDIZ(Student), 1996
- BAL H., Lojistik regrasyon analizi ve uygulaması, Post Graduate, A.ÜNAL(Student), 1996
- BAL H., Kümeleme analizi ve matematiksel programlama teknikleri, Post Graduate, O.YILMAZ(Student), 1996
- BAL H., Ortalama varyans yöntemiyle portföy optimizasyonu ve İstanbul Menkul Kıymetler Borsasına uygulanması, Post Graduate, O.AKKAYA(Student), 1996
- BAL H., Diskriminant analizinin matematiksel programlama teknikleri ile karşılaştırılması ve bir uygulama, Post Graduate, A.GÜL(Student), 1996
- BAL H., Ülkemizdeki sürücü kurslarındaki eğitimin yeterliliğinin istatistiksel analizi, Post Graduate, İ.AŞIKKAYA(Student), 1995
- BAL H., Hedef programlaması ve portföy seçiminde bir uygulama, Post Graduate, A.MİRZA(Student), 1994
- BAL H., Hedef programlaması ve gübre sanayiinde bir uygulama, Post Graduate, K.ALAKUŞ(Student), 1990
- BAL H., Sıfır-bir tamsayı doğrusal programlama ve güreşçi beslenmesi, Post Graduate, T.GÜNDOĞMUŞ(Student), 1989

### Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **A neutral cross efficiency approach for basic two stage production systems**  
ÖRKÜ H. H. , Ozsoy V. S. , ÖRKÜ M., BAL H.  
EXPERT SYSTEMS WITH APPLICATIONS, vol.125, pp.333-344, 2019 (Journal Indexed in SCI)
- II. **Particle Swarm Optimization Applied to Parameter Estimation of the Four-Parameter Burr III Distribution**  
Ozsoy V. S. , ÖRKÜ H. H. , BAL H.  
IRANIAN JOURNAL OF SCIENCE AND TECHNOLOGY TRANSACTION A-SCIENCE, vol.42, pp.895-909, 2018 (Journal Indexed in SCI)
- III. **STOCHASTIC FRONTIER MODELS BY COPULAS AND AN APPLICATION**  
Najjari V., BAL H., Ozturk F., ALP İ.  
UNIVERSITY POLITEHNICA OF BUCHAREST SCIENTIFIC BULLETIN-SERIES A-APPLIED MATHEMATICS AND PHYSICS, vol.78, no.1, pp.31-41, 2016 (Journal Indexed in SCI)
- IV. **A modification of a mixed integer linear programming (MILP) model to avoid the computational complexity**  
ÖRKÜ H. H. , ÜNSAL M. G. , BAL H.  
ANNALS OF OPERATIONS RESEARCH, vol.235, no.1, pp.599-623, 2015 (Journal Indexed in SCI)
- V. **Additive generators of copulas**  
Bacigal T., Najjari V., Mesiar R., BAL H.  
FUZZY SETS AND SYSTEMS, vol.264, pp.42-50, 2015 (Journal Indexed in SCI)
- VI. **An Archimedean Copula Family with Hyperbolic Cotangent Generator**  
Najjari V., Bacigal T., BAL H.  
INTERNATIONAL JOURNAL OF UNCERTAINTY FUZZINESS AND KNOWLEDGE-BASED SYSTEMS, vol.22, no.5, pp.761-768, 2014 (Journal Indexed in SCI)
- VII. **Comparing performances of backpropagation and genetic algorithms in the data classification**  
ÖRKÜ H. H. , BAL H.  
EXPERT SYSTEMS WITH APPLICATIONS, vol.38, no.4, pp.3703-3709, 2011 (Journal Indexed in SCI)
- VIII. **A new mathematical programming approach to multi-group classification problems**  
BAL H., ÖRKÜ H. H.  
COMPUTERS & OPERATIONS RESEARCH, vol.38, no.1, pp.105-111, 2011 (Journal Indexed in SCI)
- IX. **Improving the discrimination power and weights dispersion in the data envelopment analysis**  
BAL H., ÖRKÜ H. H. , Celebioglu S.  
COMPUTERS & OPERATIONS RESEARCH, vol.37, no.1, pp.99-107, 2010 (Journal Indexed in SCI)

- X. **A new method based on the dispersion of weights in data envelopment analysis**  
BAL H., ÖRKCÜ H. H. , Celebioglu S.  
COMPUTERS & INDUSTRIAL ENGINEERING, vol.54, no.3, pp.502-512, 2008 (Journal Indexed in SCI)
- XI. **DATA ENVELOPMENT ANALYSIS APPROACH TO TWO-GROUP CLASSIFICATION PROBLEMS AND AN EXPERIMENTAL COMPARISON WITH SOME CLASSIFICATION MODELS**  
BAL H., ÖRKCÜ H. H.  
HACETTEPE JOURNAL OF MATHEMATICS AND STATISTICS, vol.36, no.2, pp.169-180, 2007 (Journal Indexed in SCI)

### Articles Published in Other Journals

- I. **Three Group Classification Problem Approach Based on Fuzzy Goal Programming**  
Tuzuner Z., BAL H.  
JOURNAL OF POLYTECHNIC-POLITEKNİK DERGISI, vol.23, no.4, pp.1089-1095, 2020 (Journal Indexed in ESCI)
- II. **Health Efficiency Measurement In Turkey By Using Data Envelopment Analysis**  
Ertugay N., TÜZÜNER Z., BAL H.  
In Conference Proceedings of Science and Technology, vol.2, no.1, pp.1-8, 2019 (Refereed Journals of Other Institutions)
- III. **2008-2013 Döneminde Türk Bankacılık Sektörünün Etkinliğinin Veri Zarflama Analizi ve Multimora Yöntemi İle İncelenmesi**  
BEKAR ADIGÜZEL M., BAL H.  
Aksaray Üniversitesi İİBF Dergisi, vol.9, no.3, pp.37-48, 2018 (Other Refereed National Journals)
- IV. **Interval Linear Programming And Fuzzy DEA-BCC Models With Ranking Of DMU New Approach**  
JARJIES O., BAL H.  
Adıyaman Üniversitesi Fen Bilimleri Dergisi, vol.7, no.1, pp.60-88, 2017 (Refereed Journals of Other Institutions)
- V. **Ranking the Airports with Data Envelopment Analysis and Canonical Correlation Analysis**  
Ozturk E., BAL H.  
GAZI UNIVERSITY JOURNAL OF SCIENCE, vol.30, no.2, pp.237-245, 2017 (Journal Indexed in ESCI)
- VI. **TEMEL BİLEŞENLER ANALİZİ İLE VZA MODELLERİNİN SEÇİLMESİ VE BİRİMLERİN SIRALANMASI ŞEHİRLERİN EKONOMİK PERFORMANSI ÜZERİNE BİR UYGULAMA**  
BAL H., ÖZSOY V. S.  
Dumlupınar Üniversitesi Sosyal Bilimler Dergisi, pp.125-135, 2016 (Refereed Journals of Other Institutions)
- VII. **Data envelopment analysis An application to Turkish banking industry**  
BAL H., ayhan g.  
Mathematical Applications, vol.7, no.1, pp.65-72, 2002 (Refereed Journals of Other Institutions)

### Books & Book Chapters

- I. **Data Envelopment Aqnalysis and Performance Measurement**  
Banker R., Emrouznejad A., BAL H., ALP İ.  
Proceedings of the 11 th International Conference of DEA, 2014
- II. **Optimizasyon Teknikleri**  
BAL H.  
Gazi Üniversitesi, Ankara, 1995

### Refereed Congress / Symposium Publications in Proceedings

- I. **SINIFLANDIRMA PROBLEMİNE BULANIK DOĞRUSAL PROGRAMLAMA YAKLAŞIMI**  
Tüzüner Z., Bal H.

10. Uluslararası Ekonometri, Yöneylem Araştırması ve İstatistik Sempozyumu, Ankara, Turkey, 12 - 14 February 2020
- II. **KABA DOĞUM ORANLARI İÇİN MEKÂNSAL ANALİZ YÖNTEMLERİ**  
KOÇAK E., TÜZÜNER Z., BAL H.  
3. ULUSLARARASI AKADEMİK ÖĞRENCİ ÇALIŞMALAR KONGRESİ, Ankara, Turkey, 14 - 15 November 2019
- III. **Havalimanları Performanslarının Malmquist Endeksi İle İncelenmesi**  
TÜZÜNER Z., KOÇAK E., BAL H.  
3.Uluslararası Akademik Öğrenci Çalışmaları Kongresi, 14 - 15 November 2019
- IV. **Evaluation of Social Progress Performance of European Union Countries and Turkey by Data Envelopment Analysis**  
KINACI E. B. , BAL H., ALP İ.  
5th International Researchers, Statisticians and Young Statisticians Congress, 18 - 20 October 2019
- V. **A goal programming approach for the use of restricted data envelopment analysis as a tool in multi criteria decision analysis**  
KINACI E. B. , KINACI H., BAL H.  
5th International Researchers, Statisticians and Young Statisticians Congress, 18 - 20 October 2019
- VI. **Evaluating the Performance of State Universities in Turkey With Two-Stage Data Envelopment Analysis**  
KOÇAK E., BAL H.  
International Symposium on Academic Studies in Science, Engineering and Architecture Studies, Ankara, Turkey, 13 - 15 June 2019, pp.53-61
- VII. **Two Stage Data Envelopment Analysis Models: Multiplicative and Additive Model**  
ÖZSOY V. S. , BAL H.  
10th International Conference of Strategic Research on Scientific Studies and Educationnational Conference of Strategic Research on Scientific Studies and Education, Roma, 17 - 18 June 2019
- VIII. **Efficiency Analysis of Telecommunication Sector among The World'xxs Top RD investing companies**  
BAL H., ÖZSOY V. S.  
10th International Conference of Strategic Research on Scientific Studies and Education, ROMA, Italy, 17 - 18 June 2019
- IX. **Performance Evaluation Model Witd DEA in Public Sector: A Turkish University Example**  
Gölcükçü A., ÖZALTIN O., BAL H.  
16th European Workshop on Efficiency and Productivity Analysis (EWEPA): June 2019, London, 10 - 13 June 2019
- X. **ÜÇ GRUPLU SINIFLANDIRMA PROBLEMİ İÇİN BULANIK PROGRAMLAMA YAKLAŞIMI**  
TÜZÜNER Z., BAL H.  
ÇUKUROVA II. ULUSLARARASI MULTİDİSİPLİNER ÇALIŞMALAR KONGRESİ, Adana, Turkey, 26 - 28 April 2019
- XI. **Determining Anomalies of BIST 100 Index by BURR XII Distribution**  
Kınacı E. B. , Örkçü H., Bal H., Kınacı H.  
11. International Statistics Days Conference, Muğla, Turkey, 3 - 07 October 2018, pp.152
- XII. **Comparison of DEA models for the performance evaluation of the world'xxs top D investing companies the Automobiles Parts Industry**  
BAL H., ÖZSOY V. S. , KOÇAK E.  
IV. International Congress on Social and Economic Sciences, Budapest, Hungary, 26 - 30 November 2018, pp.20-25
- XIII. **Yapısal Eşitlik Modellemesinde Tahmin Metotları**  
CENGİZ Ç., BAL H.  
International Conference on Multidisciplinary, Science, Engineeringand Technology (IMESET'18 Dubai), 25 - 27 October 2018
- XIV. **RTM: Interactive estimation tool for modeling real-time wind speed**  
ÖZSOY V. S. , ÖRKÜ H. H. , BAL H.  
5th International Conference on Management Information Systems (IMISC 2018), 24 - 26 October 2018
- XV. **İki Gruplu Sınıflandırma Problemi İçin Bulanık Programlama Yaklaşımı**  
TÜZÜNER Z., BAL H., ÖRKÜ H. H.

19. Uluslararası Ekonometri, Yöneylem Araştırması ve İstatistik Sempozyumu, 17 - 20 October 2018

- XVI. **The Health Performances of the Turkey Cities by the Mixed Integer DEA Models**  
TÜZÜNER Z., ÖRKÜ H. H. , BAL H., ÖZSOY V. S. , KOÇAK E.  
10th International Statistics Congress, 6 - 08 December 2017, pp.130
- XVII. **GRAPHICAL VIEW OF RESULTS DATA ENVELOPMENT ANALYSIS**  
TÜZÜNER Z., BAL H.  
International Conference On Computational and Statistical Methods in Applied Sciences, 9 - 11 November 2017
- XVIII. **RANKING OF EFFICIENT DECISION MAKING UNITS USING TOPSIS VIA OBJECTIVE WEIGHTS**  
KOÇAK E., BAL H.  
International Conference on Computational and Statistical Methods in Applied Sciences, 9 - 11 November 2017
- XIX. **A New Weights Method for Cross Efficiency Based on Goal Programming in Data Envelopment Analysis**  
BAL H., ÖZSOY V. S. , ÖRKÜ H. H.  
International Conference on Computational and Statistical Methods in Applied Sciences (COSTAS 2017), 9 - 11 November 2017, pp.169
- XX. **A New Variable Selection Method for Data Envelopment Analysis through Bootstrap Approach**  
ÖZSOY V. S. , BAL H.  
International Conference on Computational and Statistical Methods in Applied Sciences (COSTAS 2017), 9 - 11 November 2017, pp.124
- XXI. **Comparison of alpha-levels in fuzzy data envelopment analysis**  
BAL H., GÖLCÜKÜ A.  
15th International Conference on Data Envelopment Analysis, 26 - 29 June 2017
- XXII. **Comparison of Environmental Performance of Turkey and EU countries associated with Malmquist Index**  
TÜZÜNER Z., BAL H.  
3rd International Researchers, Statisticians and Young Statisticians Congress, Konya, Turkey, 24 - 26 May 2017
- XXIII. **A New Two-Group Classification Method Based on Data Envelopment Analysis**  
DOĞAN M. İ. , ÖRKÜ H. H. , ÖZSOY V. S. , BAL H.  
3rd International Researchers, Statisticians and Young Statisticians Congress (IRSYSC 2017), 24 - 26 May 2017
- XXIV. **Evaluation of Dynamic Performance of Electricity Distribution Companies in Turkey using Window Analysis**  
ÖZSOY V. S. , ÖRKÜ H. H. , DOĞAN M. İ. , BAL H.  
3rd International Researchers, Statisticians and Young Statisticians Congress (IRSYSC 2017), 24 - 26 May 2017
- XXV. **Simulation study of estimating the unknown parameters in distributions using Particle Swarm Optimization**  
ÖZSOY V. S. , ÖRKÜ H. H. , DOĞAN M. İ. , BAL H.  
3rd International Researchers, Statisticians and Young Statisticians Congress (IRSYSC 2017), 24 - 26 May 2017
- XXVI. **A Hybrid Method for Multi-Group Classification Problem**  
DOĞAN M. İ. , ÖRKÜ H. H. , ÖZSOY V. S. , BAL H.  
3rd International Researchers, Statisticians and Young Statisticians Congress (IRSYSC 2017), 24 - 26 May 2017
- XXVII. **Measuring the efficiency in the Turkish Banking Industry: Application of Data Envelopment Analysis and Malmquist Productivity Index**  
ÖZSOY V. S. , ÖRKÜ H. H. , DOĞAN M. İ. , BAL H.  
3rd International Researchers, Statisticians and Young Statisticians Congress (IRSYSC 2017), 24 - 26 May 2017
- XXVIII. **EXAMINATION OF THE EFFICIENCIES OF WORLD COUNTRIES IN TERMS OF SOCIAL DEVELOPMENT INDEX THROUGH DATA ENVELOPMENT ANALYSIS AND GRAPHICAL REPRESENTATION OF THE RESULTS OF DATA ENVELOPMENT ANALYSIS**  
BAL H., TÜZÜNER Z.  
International Conference on Advances in Natural and Applied Sciences, 18 - 21 April 2017
- XXIX. **SELECTING DEA MODEL SPECIFICATIONS AND RANKING UNITS VIA PRINCIPAL COMPONENT ANALYSIS A APPLICATION OF ECONOMIC PERFORMANCE OF CITIES**

BAL H., ÖZSOY V. S.

I. INTERNATIONAL CONFERENCE ON ECONOMICS, BUSINESS MANAGEMENT AND SOCIAL SCIENCES (ICEBSS 2016), 5 - 09 October 2016

- XXX. **Matrix Model for Multiple Group Comparison with Malmquist Data Envelopment Analysis a Basketball League Example**  
GÖLCÜKCÜ A., ÖZSOY V. S., BAL H.  
OR58 Annual Conference – Keynote Papers and Extended Abstracts, 6 - 08 September 2016, pp.21-29
- XXXI. **Graphical Interpretation of Correlation in Data Envelopment Analysis**  
GÖLCÜKCÜ A., BAL H., ÖZTÜRK E.  
OR58 Annual Conference, 6 - 08 September 2016
- XXXII. **AB Ülkelerinin Karayolu Ulaşım Performanslarının İncelenmesi**  
TÜZÜNER Z., BAL H.  
7. ULUSLARARASI EKONOMETRİ, İSTATİSTİK VE YÖNEYLEM ARAŞTIRMASI SEMPOZYUMU, Sivas, Turkey, 2 - 04 June 2016
- XXXIII. **AB Ülkelerinin Karayolu Ulaşım Performanslarının İncelenmesi**  
TÜZÜNER Z., BAL H.  
17th International Symposium on Econometrics, Operations Research and Statistics, 2 - 04 June 2016
- XXXIV. **Küresel Rekabetçilik Endeksinin Veri Zarflama Analizi İle Ölçülmesi ve Bootstrap Veri Zarflama Analizi Uygulaması**  
ÖZSOY V. S., BAL H.  
17th International Symposium on Econometrics, Operations Research and Statistics, 2 - 04 June 2016
- XXXV. **Avrupa Birliği Ülkelerinin Ulaşım Performanslarının Stokastik Sınır Analizi ile Değerlendirilmesi**  
TÜZÜNER Z., BAL H., ÖZSOY V. S.  
2. Uluslararası Araştırmacılar-İstatistikçiler ve Genç İstatistikçiler Kongresi (2.UAİGİK-2016), Ankara, Turkey, 4 - 08 May 2016
- XXXVI. **A goal programming method selection of weights in Data Envelopment Analysis An evaluation of efficiency of Turkish airports case**  
BAL H., ÖZSOY V. S., ÖRKCÜ H. H.  
2nd International Researchers-Statisticians and Young Statisticians Congress, 4 - 08 May 2016
- XXXVII. **A goal programming method selection of weights in Data Envelopment Analysis An evaluation of efficiency of Turkish airport case**  
BAL H., ÖZSOY V. S., ÖRKCÜ H. H.  
2nd International Researchers-Statisticians and Young Statisticians (IRSYSC 2016), 4 May - 08 April 2016
- XXXVIII. **Evaluation of performance of the highways of the European Union countries using Bootstrap Data Envelopment Analysis**  
ÖZSOY V. S., BAL H., TÜZÜNER Z.  
2nd International Researchers-Statisticians and Young Statisticians Congress, 4 - 06 May 2016
- XXXIX. **Performance Evaluation of European Union Countries Transportation with Stochastic Frontier Analysis**  
TÜZÜNER Z., BAL H., ÖZSOY V. S.  
2nd International Researchers-Statisticians and Young Statisticians Congress, 4 - 06 May 2016
- XL. **Ranking the airports in Turkey with Data Envelopment Analysis and Principal Component Analysis**  
BAL H., Ozturk E.  
International Conference on Advances in Natural and Applied Sciences (ICANAS), Antalya, Turkey, 21 - 23 April 2016, vol.1726
- XLI. **Academical Efficiency Comparison of Countries via DEA**  
BAL H., AYHAN G.  
13th International Conference on Data Envelopment Analysis, Germany, 24 - 27 August 2015, pp.27
- XLII. **Comparison of Countries According to Academic Performance Change over Time with Malmquist DEA Analysis**  
AYHAN G., BAL H.

13th International Conference on Data Envelopment Analysis, Germany, 24 - 27 August 2015, pp.27

- XLIII. **Investigation of Optimist and Pessimist Situations via DEA with Fuzzified Data Banking Example**  
AYHAN G., BAL H.

International Conference on DEA in Economics and Finance 2015, Faculty of Economics, Ostrava, Czech Republic, 4 - 06 January 2015, pp.36

- XLIV. **TESTING THE BEST DESIGN FOR FEMALE CALF GROWTH WITH DEA**  
GÖLCÜKCÜ A., ORHAN H., BAL H., BİLGİNTURAN S.

Proceedings of the 12th International Conference of DEA, June 2014, Kuala Lumpur, Malaysia, 9 - 16 October 2014

- XLV. **DO PLAYERS PERFORMANCE INDICATE TEAM PERFORMANCE TURKISH BASKETBALLLEAGUE EXAMPLE**

BAL H., GÖLCÜKCÜ A.

Proceedings of the 12th International Conference of DEA, 3 - 04 October 2014

- XLVI. **A New Method For Parameter Estimation And Model Selection In Copulas**

vadoud n., BAL H., KINACI H.

4th International Scientific Conference of Iranian Academics in Turkey, 01 March 2014

- XLVII. **A note on a copula construction method**

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