

VOLKAN SONER ÖZSOY

— ASSOC. PROF. OF MIS AT ASU —

PRESENT ADDRESS

Department of Management Information Systems
College of Administrative Sciences and Economics
Aksaray University, 68100, Aksaray, Turkey

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EDUCATION

Gazi University **Ankara, Turkey**
Ph.D. Department of Statistics, Operations Research Oct 2019
Dissertation title: Bootstrap Approach in Dynamic Network Data Envelopment Analysis Models
Minors: Bootstrap, Network DEA, Simulation
Advisor: Professor Hasan Bal

Gazi University **Ankara, Turkey**
M.Sc. Department of Statistics, Operations Research Sep 2012
Dissertation title: New Decision Support System for Performance Analysis
Minors: Computer Science, DSS, DEA, Performance Analysis
Advisor: Professor Ihsan Alp

Karadeniz Technical University **Trabzon, Turkey**
B.Sc. Department of Statistics and Computer Science Jun 2010

APPOINTMENTS

Aksaray University, **Aksaray, Turkey**
College of Administrative Sciences and Economics
Department of Management Information Systems
Associate Professor July 2022 - present

Aksaray University, Dept. of Finance-Banking and Ins. **Aksaray, Turkey**
Associate Professor Sep 2021 - July 2022
Assistant Profesör Dec 2019 - Sep 2021

Gazi University, Department of Statistics **Ankara, Turkey**
Research Assistant Jan 2014 - Dec 2019

Marmara University **Istanbul, Turkey**
Research Assistant Jun 2013 - Jan 2014

Nigde University, Department of Statistics **Nigde, Turkey**
Research Assistant Jan 2012 - Jan 2013

The Ministry of Family and Social Policies **Turkey**
Directorate General for Social Aids, Social Assistance and Solidarity Foundation
Assistant Expert Sep 2011 - Jan 2012

SPECIAL TRAININGS

Big Data Analysis **Ankara, Turkey**
Havelsan Co. Jun 2018

Project Cycle Management (PCM) **Ankara, Turkey**
Ministry of European Union & Gazi University Nov 2011 - Dec 2011

RESEARCH INTERESTS

Methodologies: Machine Learning, Operations Research, Big Data, Performance Analysis, Optimization, Simulation, Bootstrap, Data Mining
Applications: R, Python, MATLAB, Visual Studio C#, AMOS, DEAP, \LaTeX , SPSS Clementine (IBM Modeler)

- COURSES TAUGHT**
- Survey Research and Design Courses** **Ankara, Turkey**
 Design of questionnaires, application methods, scale types and sampling methods
 Radio and Television Supreme Council (RTUK) July 2020
- SPSS, AMOS, MAXQDA Courses** **Kahramanmaraş, Turkey**
 Scale, Reliability and Qualitative Research Methods
 Kahramanmaraş Sütçü İmam University Jun 2019
- Microsoft Office Programs Courses** **Ankara, Turkey**
 Statistical Consulting, Training, Practice and Research Center (İDEAM)
 Gazi University Apr 2019
- TEACHING**
- | | |
|--|--------------------------------------|
| YBS333 - Operations Research | ASU Dept. of MIS (2022-2023) |
| YBS543 - Optimization Methods | ASU Dept. of MIS (2022-2023) |
| YBS205 - Database Management Systems | ASU Dept. of MIS (2022-2023) |
| YBS467 - Machine Learning | ASU Dept. of MIS in future |
| YBS358 - Data Visualization | ASU Dept. of MIS in future |
| YBS888 - Data Science | ASU Dept. of MIS in future |
| YBS889 - Python and R Programming | ASU Dept. of MIS in future |
| YBS890 - Python and R Applications in Data Science | ASU Dept. of MIS in future |
| BVS118 - Statistics | ASU Dept. of FBI (2019-2022) |
| IST2006 - Operations Research I | G.U. Dept. of Statistics (2013-2019) |
| IST3006 - Operations Research II | G.U. Dept. of Statistics (2013-2019) |
| IST3003 - Optimization Techniques | G.U. Dept. of Statistics (2013-2019) |
| IST3005 - Simulation Techniques | G.U. Dept. of Statistics (2013-2016) |
| IST3002 - Regression Analysis | G.U. Dept. of Statistics (2015-2019) |
- JOURNAL PUBLICATIONS**
- Özsoy, V.S.**, Belgin, Ö., Balkan, D. (2022) A Novel approach for determining common weights in two division network DEA: a case study of Science and Technology Parks in Turkey. *Technology Analysis & Strategic Management*, 34(10), 1124-1138. (indexed in SCI-Exp).
 - Özsoy, V.S.**, Doğan, M.İ. (2022). Which Universities Use Their Spaces Efficiently? Efficiency Analysis of the Public University in Turkey. *Journal of Polytechnic*, 25(2), 569-580. (indexed in ESCI).
 - Muvingi, J., Peer, A.A.I., Lotfi, F.H., **Özsoy, V.S.** (2022) Hierarchical Groups DEA Cross-efficiency and TOPSIS technique: An application on mobile money agents locations. *International Journal of Mathematics in Operational Research*, 21(2), 171-199. (indexed in ESCI).
 - Doğan, M.İ., **Özsoy, V.S.**, Örkücü, H.H. (2021) Performance Management of OECD Countries on Covid-19 Pandemic: A Criticism using Data Envelopment Analysis Models. *Journal of Facilities Management*, 19(4), 479-499. (indexed in ESCI).
 - Özsoy, V.S.**, Örkücü, H.H. (2021) Structural and operational management of Turkish airports: a bootstrap data envelopment analysis of efficiency. *Utilities Policy*, 69, 101180. (indexed in SSCI).
 - Özsoy, V.S.**, Örkücü, M., Örkücü, H.H. (2021). A minimax approach for selecting the overall and stage-level most efficient unit in two stage production processes. *Annals of Operations Research*, 300, 137-169. (indexed in SCI-Exp.).
 - Özsoy, V.S.**, (2021). The determination of the most suitable inertia weight strategy for Particle Swarm Optimization via the minimax mixed-integer linear prog-

- ramming model, *Engineering Computations*, 38(4), 1933-1954 (**indexed in SCI-Exp.**).
8. **Özsoy, V.S.**, Örkücü, H.H., Örkücü, M. (2021). A simplistic approach without epsilon to choose the most efficient unit in data envelopment analysis. *Expert Systems with Applications*, 54(4), 1215-1230. (**indexed in SCI-Exp.**).
 9. Küçük, A., Demirci, M., Kerman, G., **Özsoy, V.S.** (2021). Evaluating of Hospital Appointment Systems in Turkey: Challenges and Opportunities. *Health Policy and Technology*, 10(1), 69-74. (**indexed in SSCI**).
 10. **Özsoy, V.S.**, Ünsal, M.G. Örkücü, H.H. (2020). Use of the heuristic optimization in the parameter estimation of generalized gamma distribution: comparison of GA, DE, PSO and SA methods. *Computational Statistics*, 35, 1895–1925. (**indexed in SCI-Exp.**).
 11. Örkücü, M., **Özsoy, V.S.**, Örkücü, H.H. (2020). An Optimistic-Pessimistic DEA Model Based on Game Cross Efficiency Approach. *RAIRO Operations Research*, 54(4), 1215-1230. (**indexed in SCI-Exp.**).
 12. Küçük, A., **Özsoy, V.S.**, Balkan, D. (2020) Assessment of Technical Efficiency of Public Hospitals in Turkey. *European Journal of Public Health*, 30(2), 230-235. (**indexed in SSCI**).
 13. **Özsoy, V.S.**, Örkücü, M., Örkücü, H.H. (2020). The most efficient supplier selection with mixed-integer two-stage data envelopment analysis model. *Pamukkale University Journal of Engineering Sciences*, 26(4), 758-767. (**indexed in ESCI**).
 14. Yavuzaslanoglu, E., **Özsoy, V.S.** (2020). Resistance reactions of onion landraces collected from Turkey to the stem and bulb nematode *Ditylenchus dipsaci*. *Mediterranean Agricultural Sciences*, 33(2), 195-199. (**indexed in WoS**)
 15. Örkücü, H.H., **Özsoy, V.S.**, Örkücü, M., Bal, H. (2019). A neutral cross efficiency approach for basic two stage production systems. *Expert Systems with Applications*, 125, 333-344. (**indexed in SCI-Exp.**).
 16. Yavuzaslanoglu, E., Sonmezoglu, O., Genc, N., Akar, Z., Ocal, A., Karaca, M., Elekcioğlu, I., **Özsoy, V.S.**, & Aydogdu, M. (2019). Occurrence and abundance of nematodes on onion in Turkey and their relationship with soil physicochemical properties, *Nematology*, 21(10), 1063-1079. (**indexed in SCI-Exp.**).
 17. Alp, İ., **Özsoy, V.S.** (2019). A New Robust Bootstrap Algorithm for Assessment of Common Set of Weights in Performance Analysis. *Iranian Journal of Management Studies*. (**indexed in ESCI**).
 18. **Özsoy, V.S.**, Örkücü, H.H., Bal, H. (2018). Particle Swarm Optimization Applied to Parameter Estimation of the Four-Parameter Burr III Distribution. *Iranian Journal of Science and Technology, Transactions A: Science*, 42(2), 895-909. (**indexed in SCI-Exp.**)
 19. Alp, İ., **Özsoy, V.S.** (2017). Two Stage Approach for the Performances of Teams in Football Using Data Envelopment Analysis. *Gazi University Journal of Science*, 30(3), 195-208. (**indexed in ESCI**).

20. **Özsoy, V.S.**, Örkücü, H.H. (2016). Estimating the Parameters of Nonlinear Regression Models Through Particle Swarm Optimization. *Gazi University Journal of Science*, 29(1), 187-199. **(indexed in ESCI).**
21. Bal, H. & **Özsoy, V.S.** (2016). Selecting DEA model specifications and ranking units via principal component analysis: an application of economic performance of cities. *Dumlupınar University Journal of Social Sciences*, 125-135.
22. Örkücü, H.H., **Özsoy, V.S.**, Aksoy, E., Doğan, M. I. (2015). Estimating the parameters of 3-p Weibull distribution using particle swarm optimization: A comprehensive experimental comparison. *Applied Mathematics and Computation*, 268, 201-226. **(indexed in SCI-Exp.)**

# OF CITATIONS	# of citations: 107 h-index: 6	Web of Science
	# of citations: 117 h-index: 6	Scopus
	# of citations: 191 h-index: 7	Google Scholar

BOOK CHAPTERS **Özsoy, V.S.**, (2018). “Network Data Envelopment Analysis”, *Current Topics in Quantitative Decision Methods: Theory and Practice*, ISBN:978-605-344-767-2, Page 15-30.

- CONFERENCE PROCEEDINGS
1. **Özsoy, V.S.** (2020). Performance of Differential Evolution, Particle Swarm Optimization, Genetic Algorithm, and Artificial Bee Colony algorithms in clustering analysis. 20th International Symposium on Econometrics, Operations Research and Statistics, Ankara, Turkey.
 2. **Özsoy, V.S.**, Özsoy, M., Örkücü, H.H. (2020). Determination of The Most Efficient Cement Producer of Turkey using Mixed Integer Linear Programming Model. 20th International Symposium on Econometrics, Operations Research and Statistics, Ankara, Turkey.
 3. **Özsoy, V.S.** (2019). Execution of Particle Swarm Optimization Algorithm according to Acceleration Coefficients and Inertia Weight Strategies. The 2nd International Conference on Artificial Intelligence towards Industry 4.0, Iskenderun, Turkey.
 4. Balkan, D., **Özsoy, V.S.**, Belgin, Ö. (2019). Evaluation of Technology Development Zones using Data Envelopment Analysis. 5th International Conferences on Engineering Sciences, Ankara, Turkey.
 5. **Özsoy, V.S.**, Bal, H. (2019, June 17-18). Two Stage Data Envelopment Analysis Models: Multiplicative and Additive Model. 10th International Conference of Strategic Research on Scientific Studies and Education (ICoSReSSE), Rome, Italy.
 6. Demir, E., **Özsoy, V.S.**, Örkücü, H.H., (2019, June 28-30). Estimation of parameters of Levy Distribution by Genetic Algorithm: a simulation study. 3rd International Congress of Applied Sciences, Sivas, Turkey.
 7. Bal, H., **Özsoy, V.S.** (2019, June 17-18). Efficiency Analysis of Telecommunication Sector among The World's Top R&D investing companies. 10th International Conference of Strategic Research on Scientific Studies and Education (ICoSReSSE), Rome, Italy.

8. Örkücü, H.H., **Özsoy, V.S.**, Örkücü, M. (2019). Cross Efficiency Model in Network Data Envelopment Analysis Models. *6th International Symposium on Academic Studies in Science, Engineering and Architecture Sciences*, Ankara, Turkey.
9. Örkücü, H.H., **Özsoy, V.S.** (2019). Estimation of Parameters of Rayleigh Distribution by Differential Evolution Algorithm: A Simulation Study. *6th International Symposium on Academic Studies in Science, Engineering and Architecture Sciences*, Ankara, Turkey.
10. **Özsoy, V.S.**, Örkücü, H.H., Bal, H., RTM: Interactive estimation tool for modeling real-time wind speed. *5th International Conference on Management Information Systems (IMISC 2018)*, 2018, Ankara, Turkey.
11. **Özsoy, V.S.**, Alp, İ. R&D Index of Countries based on the R&D Performance of the World Top 2500 Companies. *1. International Mersin Symposium*. Mersin.
12. Gölcükcü, A., **Özsoy, V.S.**, Bal, H. Multiplier DEA Model in case of zero data for Cultural Development Comparison. *4th International Congress on Social and Economic Sciences (ICSES)*, November 26-30, 2018, Budapest, Hungary.
13. Alp, İ. **Özsoy, V.S.**, NBA 2016 Sezonu Basketbol Takımların Veri Zarflama Analizi ile Performansının Değerlendirilmesi. *1. International Mersin Symposium*. Mersin, Turkey.
14. Bal, H., **Özsoy, V.S.**, Gölcükcü, A., Comparison of DEA Models for The Performance Evaluation of The World's Top R&D Investing Companies in The Automobiles Industry. *4th International Congress on Social and Economic Sciences (ICSES)*, November 26-30, 2018, Budapest, Hungary.
15. **Özsoy, V.S.**, Kocak, E., "Evaluation of the Life Index Based on Data Envelopment Analysis: Quality of Life Indexes of Turkey", *10th International Statistics Congress*, 2017, December 06 to 08, 2017 Ankara, Turkey.
16. Tüzüner, Z., Örkücü, H.H., Bal, H., **Özsoy, V.S.**, Kocak, E., "The Health Performances of the Turkey Cities by the Mixed Integer DEA Models", *10th International Statistics Congress*, 2017, December 06 to 08, 2017 Ankara, Turkey.
17. **Özsoy, V.S.**, Bal, H., "A New Variable Selection Method for Data Envelopment Analysis Through Bootstrap Approach", *International Conference on Computational and Statistical Methods in Applied Sciences (COSTAS 2017)*, November 9 to 11, 2017 Samsun, Turkey.
18. Bal, H., **Özsoy, V.S.**, Örkücü, H. H., "A New Weights Method for Cross Efficiency Based on Goal Programming in Data Envelopment Analysis", *International Conference on Computational and Statistical Methods in Applied Sciences (COSTAS 2017)*, November 9 to 11, 2017 Samsun, Turkey.
19. **Özsoy, V.S.**, Örkücü, H. H., Dogan, M. I., Bal, H., "Evaluation of Dynamic Performance of Electricity Distribution Companies in Turkey using Window Analysis", *3rd International Researchers, Statisticians and Young Statisticians Congress (IRSYSC 2017)*, 24-26 May, 2017, Konya, Turkey.

20. **Özsoy, V.S.**, Örkücü, H. H., Dogan, M. I., Bal, H., "Simulation study of estimating the unknown parameters in distributions using Particle Swarm Optimization", *3rd International Researchers, Statisticians and Young Statisticians Congress (IRSYSC 2017)*, 24-26 May, 2017, Konya, Turkey.
21. **Özsoy, V.S.**, Örkücü, H. H., Dogan, M. I., Bal, H., "Measuring the efficiency in the Turkish Banking Industry: Application of Data Envelopment Analysis and Malmquist Productivity Index", *3rd International Researchers, Statisticians and Young Statisticians Congress (IRSYSC 2017)*, 24-26 May, 2017, Konya, Turkey.
22. Dogan, M. I., Örkücü, H. H., **Özsoy, V.S.**, Bal, H., "A Hybrid Method for Multi-Group Classification Problem", *3rd International Researchers, Statisticians and Young Statisticians Congress (IRSYSC 2017)*, 24-26 May, 2017, Konya, Turkey.
23. Dogan, M. I., Örkücü, H. H., **Özsoy, V.S.**, Bal, H., "A New Two-Group Classification Method Based on Data Envelopment Analysis", *3rd International Researchers, Statisticians and Young Statisticians Congress (IRSYSC 2017)*, 24-26 May, 2017, Konya, Turkey.
24. Bal, H., **Özsoy, V.S.**, "Selecting DEA model specifications and ranking units via Principal Component Analysis: A application of economic performance of cities", *International Conference on Economics, Business Management and Social Sciences (ICEBSS 2016)*, October 5-9, 2016, Sarajevo, Bosnia-Herzegovina.
25. Gölcükcü, A., **Özsoy, V.S.**, Bal, H., "Matrix Model for Multiple Group Comparison with Malmquist Data Envelopment Analysis: a Basketball League Example", *Operational Research Society Annual Conference (OR58)*, Page 21-29, 6 – 8 September 2016, University of Portsmouth, Portsmouth, Germany.
26. Örkücü, H.H., **Özsoy, V.S.**, "New approaches to cross efficiency in DEA and performance evaluation of Turkey's cities", *International Conference on Applied Mathematics and Analysis (ICAMA2016)*, Page 78, July 11-13, 2016, Atılım University, Ankara, Turkey.
27. **Özsoy, V.S.**, Örkücü, H.H., "Measuring the efficiency of Turkey airports with various data envelopment analysis models", *International Conference on Applied Mathematics and Analysis (ICAMA2016)*, Page 83, July 11-13, 2016, Atılım University, Ankara, Turkey.
28. **Özsoy, V.S.**, "Yapay Arı Kolonisi ile Doğrusal Olmayan Regresyon Modellerinin Parametre Tahmini", *Proceedings of 17th International Symposium on Econometrics, Operations Research and Statistics*, Page 674-675, June 2-4, 2016, Cumhuriyet University, Sivas, Turkey.
29. **Özsoy, V.S.**, Örkücü, H.H., "Benzetilmiş Tavlama Algoritması ile Üç Parametrelili Weibull Dağılımının Parametrelerinin Tahmin Edilmesi", *Proceedings of 17th International Symposium on Econometrics, Operations Research and Statistics*, Page 630-631, June 2-4, 2016, Cumhuriyet University, Sivas, Turkey.
30. **Özsoy, V.S.**, Bal, H., "Küresel Rekabetçilik Endeksinin Veri Zarflama Analizi ile Ölçülmesi ve Bootstrap Veri Zarflama Analizi Uygulaması", *Proceedings of 17th International Symposium on Econometrics, Operations Research and Statistics*, Page 640-641, June 2-4, 2016, Cumhuriyet University, Sivas, Turkey.

31. Örkücü, H.H., **Özsoy, V.S.**, "Estimating the unknown parameters of the four parameter Burr III distribution through Differential Evolution", *Proceedings of 2nd International Researchers, Statisticians and Young Statisticians Congress (IRSYSC 2016)* , Page 38, May 4-8, 2016 , Hacettepe University, Ankara, Turkey.
32. Bal, H., **Özsoy, V.S.**, Örkücü, H.H., "A goal programming method selection of weights in Data Envelopment Analysis: An evaluation of efficiency of Turkish airports case", *Proceedings of 2nd International Researchers, Statisticians and Young Statisticians Congress (IRSYSC 2016)* , Page 36, May 4-8, 2016 , Hacettepe University, Ankara, Turkey.
33. **Özsoy, V.S.**, Bal, H., Tüzüner, Z., "Evaluation of performance of the highways of the European Union countries using Bootstrap Data Envelopment Analysis", *Proceedings of 2nd International Researchers, Statisticians and Young Statisticians Congress (IRSYSC 2016)* , Page 37, May 4-8, 2016 , Hacettepe University, Ankara, Turkey.
34. Dogan, M.I., **Özsoy, V.S.**, Örkücü, H.H., "Assessing productive efficiency of banks using Malmquist DEA and Bootstrap DEA: A case of Turkish banks", *Proceedings of 2nd International Researchers, Statisticians and Young Statisticians Congress (IRSYSC 2016)* , Page 35, May 4-8, 2016 , Hacettepe University, Ankara, Turkey.
35. Tüzüner, Z., Bal, H., **Özsoy, V.S.**, "Performance Evaluation of European Union Countries Transportation with Stochastic Frontier Analysis", *Proceedings of 2nd International Researchers, Statisticians and Young Statisticians Congress (IRSYSC 2016)* , Page 90, May 4-8, 2016 , Hacettepe University, Ankara, Turkey.
36. **Özsoy, V.S.**, Bal, H., "Measurement of Climate Risk Index with Data Envelopment Analysis", *Proceedings of the 35th Operations Research and Industrial Engineering Congress (ORIE 2015)* , 129-130, Sept 9-11, 2015 , METU, Ankara, Turkey.
37. **Özsoy, V.S.**, Alp, İ., "Turkish Decision Support System for Performance Analysis With C# Programming Language", *Proceedings of the 11th International Conference of Data Envelopment Analysis and Performance Measurement (DEA2013)*, 389-394, June 27-30, 2013 , Samsun, Turkey.
38. **Özsoy, V.S.**, Alp, İ., "New Decision Support System for Performance Analysis", *Proceedings of 10th International Conference on Knowledge, Economy and Management & 11th International Conference of ASIA Chapter of the AHRD & 2nd International Conference of MENA Chapter of Academy of Human Resource Development*, 494-501, Nov 8-10, 2012, İstanbul, Turkey.
39. **Özsoy, V.S.**, Alp İ., "New Decision Support System for Performance Analysis", *Proceedings of the 5th Engineering and Technology Symposium*, 114-117, Apr 26-27, 2012, Ankara, Turkey.

REVIEWS

- *Referee:* Cybernetics and Systems (indexed in SCI-Exp.)
- *Referee:* Journal of Information Technology & Decision Making (indexed in SCI-Exp.)
- *Referee:* Journal of Applied Statistics (indexed in SCI-Exp.)
- *Referee:* Operational Research - An International Journal (indexed in SCI-Exp.)
- *Referee:* RAIRO - Operations Research (indexed in SCI-Exp.)
- *Referee:* Expert Systems (indexed in SCI-Exp.)
- *Referee:* Applied Artificial Intelligence (indexed in SCI-Exp.)

- *Referee*: INFOR: Information Systems and Op. Research (indexed in SCI-Exp.)
- *Referee*: Machine Learning with Applications (indexed in ESCI)
- *Referee*: Gazi University Journal of Science (indexed in ESCI)
- *Referee*: Journal of Polytechnic (indexed in ESCI)
- *Referee*: Journal of Productivity
- *Referee*: Journal of Turkish Operations Management

- HONORS
- Incentive Awards for International Scientific Publications TUBİTAK 2019
Ankara, Turkey
 - Incentive Awards for International Scientific Publications Gazi University, 2019
Ankara, Turkey
 - Honorable Mention Award 2016
Int. Conf. on Business Economics and Soc. Sci., Sarajevo, Bosnia-Herzegovina
 - Incentive Awards for International Scientific Publications Gazi University, 2016
Ankara, Turkey
 - Graduated second among 60 students in the department Karadeniz Technical University, 2010
Trabzon, Turkey

- PROFESSIONAL SOCIETY SERVICE
- Member: International Association of Engineers (IAENG), since 2017
 - Member: International Statistical Institute (ISI), since 2014
 - Member: Bernoulli Society (BS), since 2013
 - Member: European Network for Business and Industrial Statistics (ENBIS), since 2013