

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 Professor 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, L^AT_EX, 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	1. 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. <i>Technology Analysis & Strategic Management</i> , 34(10), 1124-1138. (indexed in SCI-Exp).	
	2. Özsoy, V.S. , Doğan, M.İ. (2022). Which Universities Use Their Spaces Efficiently? Efficiency Analysis of the Public University in Turkey. <i>Journal of Polytechnic</i> , 25(2), 569-580. (indexed in ESCI).	
	3. 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. <i>International Journal of Mathematics in Operational Research</i> , 21(2), 171-199. (indexed in ESCI).	
	4. 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. <i>Journal of Facilities Management</i> , 19(4), 479-499. (indexed in ESCI).	
	5. Özsoy, V.S. , Örkücü, H.H. (2021) Structural and operational management of Turkish airports: a bootstrap data envelopment analysis of efficiency. <i>Utilities Policy</i> , 69, 101180. (indexed in SSCI).	
	6. 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. <i>Annals of Operations Research</i> , 300, 137-169. (indexed in SCI-Exp.).	
	7. 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: 101 h-index: 6	Web of Science
	# of citations: 110 h-index: 6	Scopus
	# of citations: 175 h-index: 7	Google Scholar

Book Chapters	Özsoy, V.S. , (2018). "Network Data Envelopment Analysis", <i>Current Topics in Quantitative Decision Methods: Theory and Practice</i> , ISBN:978-605-344-767-2, Page 15-30.
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| Conference Proceedings | <ol style="list-style-type: none"> 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. |
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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. Gölcükücü, 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.)

	<ul style="list-style-type: none"> • <i>Referee</i>: INFOR: Information Systems and Op. Research (indexed in SCI-Exp.) • <i>Referee</i>: Machine Learning with Applications (indexed in ESCI) • <i>Referee</i>: Gazi University Journal of Science (indexed in ESCI) • <i>Referee</i>: Journal of Polytechnic (indexed in ESCI) • <i>Referee</i>: Journal of Productivity • <i>Referee</i>: Journal of Turkish Operations Management
Honors	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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