

Curriculum Vitae

Joe Zhu

Professor of Operations & Industrial Engineering
School of Business
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Education

Ph.D., Industrial Engineering
University of Massachusetts at Amherst, 1998

M.S., Systems Engineering
Southeast University, China, 1992

Appointments

2010 – present, **Professor**, School of Business, Worcester Polytechnic Institute

2003 – 2010, **Associate Professor**, Department of Management, Worcester Polytechnic Institute

1998 – 2003, **Assistant Professor**, Department of Management, Worcester Polytechnic Institute

Visiting Appointments

June-July, 2010, **William Evans Visiting Fellow**, Department of Finance & Quantitative Analysis, University of Otago, Dunedin, New Zealand.

December 2009-January, 2010, **Distinguished Research Chair Professor**, School of Management, Ming Chuan University, Taipei, Taiwan.

May-June, 2007, **Visiting research fellow**, Graduate School of Information Science and Technology, Osaka University, Japan.

2007, **Visiting Associate Professor**, Department of Industrial and Information Management, the National Cheng Kung University, Taiwan.

May-July, 2002, Japan Society for Promotion of Science (JSPS) Fellow,
Graduate School of Information Science and Technology, Osaka University, Japan.

Publications in Refereed Journals

87. Du, J., Wang, J., Chen, Y., Chou, S-Y, and Zhu, Joe, Incorporating Health Outcomes in Pennsylvania Hospital Efficiency: An Additive Super-efficiency DEA Approach, *Annals of Operations Research*, (in press)
86. Cook, W.D., Harrison, J., Rouse, P. and Zhu, Joe, Relative Efficiency Measurement: The Problem of a Missing Output in a Subset of Decision Making Units, *European Journal of Operational Research*, (in press)
85. Du, J., Chen, C-M, Chen, Y., Cook, W.D. and Joe Zhu, Joe, Additive Super-efficiency in Integer-valued Data Envelopment Analysis, *European Journal of Operational Research*, 218 (2012), 186-192.
84. Lee, H-S, and Zhu, Joe, Super-efficiency Infeasibility and Zero Data in DEA, *European Journal of Operational Research*, 216 (2012), 429-433.
83. Cook, W.D. and Zhu, Joe, Multiple Variable Proportionality in Data Envelopment Analysis, *Operations Research*, Vol. 59, No. 4 (2011), 1024-1032.
82. Cook, W.D. and Zhu, Joe, Output Specific Input Assurance Regions in DEA, *Journal of the Operational Research Society*, Vol. 62 (2011), 1881-1887.
81. Zhu, Joe, Airlines Performance via Two-Stage Network DEA Approach, *Journal of CENTRUM Cathedra*, Vol. 4 (2011), Issue 2, 260-269.
80. Chen, C-M and Zhu, Joe, Efficient Resource Allocation via Efficiency Bootstraps: An Application to R&D Project Budgeting, *Operations Research*, Vol. 59 (2011), May-June, pp. 729-741.
79. Lee, H-S, Chu, C-W, and Zhu, Joe, Super-efficiency DEA in the Presence of Infeasibility, *European Journal of Operational Research*, Vol. 212 (2011), 141-147.
78. Liang, L., Li, Z-Q, Cook, W.D. and Zhu, Joe, DEA Efficiency in Two-Stage Networks with Feed Back, *IIE Transactions*, Vol. 43 (2011), 309-322.
77. Du, J., Liang, L., Chen, Y., Cook, W.D. and Zhu, Joe, A Bargaining Game Model for Measuring Performance of Two-stage Network Structures, *European Journal of Operational Research*, Vol. 210, Issue 2 (2011), 390-397.
76. Cook, W.D., Zhu, Joe, Yang, F. and Bi, G-B, Network DEA: Additive Efficiency Decomposition, *European Journal of Operational Research*, Vol. 207, Issue 2 (2010), 1122-1129.
75. Chen, Y., Du, J., Sherman, H.D. and Zhu, Joe, DEA Model with Shared

- Resources and Efficiency Decomposition, *European Journal of Operational Research*, Vol. 207 (2010), 339-349.
74. Cook, W.D., Liang, L. and Zhu, Joe, Measuring Performance of Two-Stage Network Structures by DEA: A Review and Future Perspective, *OMEGA*, Vol. 38 (2010), 423-430.
73. Cook, W.D. and Zhu, Joe, Context-dependent performance standards in DEA, *Annals of Operations Research*, Vol. 173, No. 1 (2010), 163-175.
72. Du, J., Liang, L., and Zhu, Joe, A slacks-based measure of super-efficiency in data envelopment analysis: A Comment, *European Journal of Operational Research*, Vol. 204 (2010), 694-697.
71. Chen, Y., Cook, W.D. and Zhu, Joe, Deriving the DEA Frontier for Two-Stage Processes, *European Journal of Operational Research*, Vol. 202 (2010), 138-142.
70. Cook, W.D. and Zhu, Joe, Piecewise Linear Output Measures in DEA, *European Journal of Operational Research*, Vol. 197 (2009), 312-319.
69. Cook, W.D. Yang, F. and Zhu, Joe, Nonlinear inputs and diminishing marginal value in DEA, *Journal of the Operational Research Society*, Vol. 60, No. 11 (2009), 1567-1574.
68. Chen, Y., Cook, W.D., Li, N. and Zhu, Joe, Additive Efficiency Decomposition in Two-Stage DEA, *European Journal of Operational Research*, Vol. 196 (2009), 1170-1176.
67. Liang, L., Zha, Y., Cook, W.D. and Zhu, Joe, A Modified Super-efficiency DEA Model for Infeasibility, *Journal of Operational Research Society*, Vol. 69 (2009), 276-281.
66. Chen, Y., Liang, L. and Zhu, Joe, Equivalence in Two-Stage DEA Approaches, *European Journal of Operational Research*, Vol. 193 (2009), Issue 2, 600-604.
65. Liang, L., Wu, J., Cook, W.D. and Zhu, Joe, The DEA game cross efficiency model and its Nash equilibrium, *Operations Research*, 56 (2008), 1278-1288.
64. Liang, L., Cook, W.D. and Zhu, Joe, DEA Models for two-stage processes: game approach and efficiency decomposition, *Naval Research Logistics*, Vol. 55 (2008), 643-653.
63. Liang, L., J. Wu, W.D. Cook and J. Zhu, Alternative Secondary Goals in DEA Cross Efficiency Evaluation, *International Journal of Production Economics*, Vol. 113 (2008), 1025-1030.
62. Cook, W.D. and Zhu, Joe, Context-dependent assurance regions in DEA, *Operations Research*, Vol. 56, No. 1 (2008), 69-78.
61. Cooper, W.W. Z. Huang, S. Li and J. Zhu, A Response to the Critiques of Dmitruk and Koshevoy and of Bol, *Journal of Productivity Analysis*, Vo.

- 29, No. 1 (2008), 15-21.
60. Cooper, W.W., Seiford, L.M., Tone, K. and Zhu, Joe, Some models and measures for evaluating performances with DEA: Past accomplishments and future prospects, *Journal of Productivity Analysis*, Vol. 28, No. 3 (2007), 151-163.
 59. Gregorious, G.N. and Zhu, Joe, Data envelopment analysis as an alternative performance evaluation tool in assessing the efficiency of funds of hedge funds, *Journal of Portfolio Management*, Vol. 33, No. 2 (2007), 120-132.
 58. Cook, W.D. and Zhu, Joe, Classifying inputs and outputs in data envelopment analysis, *European Journal of Operational Research*, Vol. 180, Issue 2 (2007), 692-699.
 57. Cook, W.D. and Zhu, Joe, Within-group common weights in DEA: An analysis of power plant efficiency, *European Journal of Operational Research*, Vol. 178, Issue 1 (2007), 207-216.
 56. Sherman, D.H. and Zhu, Joe, Benchmarking with quality-adjusted DEA (Q-DEA) to seek lower-cost high-quality service: Evidence from a U.S. bank application, *Annals of Operations Research*, Vol. 145, No. 1 (2006), 301-319.
 55. Liang, L., Yang, F. Cook, W.D. and Zhu, Joe, DEA models for supply chain efficiency evaluation, *Annals of Operations Research*, Vol. 145, No. 1 (2006), 35-49.
 54. Cook, W.D. and Zhu, Joe, Preface for the Special Issue on "Performance Evaluation and Beyond: Data Envelopment Analysis Research Frontiers" in Honor of William W. Cooper, *Annals of Operations Research*, Vol. 145, No. 1 (2006), 1-3.
 53. Cook, W.D. and Zhu, Joe, Rank order data in DEA: A general framework, *European Journal of Operational Research*, Vol. 174, Issue 2 (2006), 1021-1038.
 52. Cook, W.D. and Zhu, Joe, Incorporating multi-process performance standards into the DEA framework, *Operations Research*, Vol. 54, No. 4 (2006), 656-665.
 51. Cook, W.D. Green, R. and Zhu, Joe, Dual-role factors in DEA, *IIE Transactions*, Vol. 38, Number 2 (2006), 105-115.
 50. Chen, Y., Liang, L., Yang, F. and Zhu, Joe, Evaluation of information technology investment: A data envelopment analysis approach, *Computers & Operations Research*, Vol. 33, Issue 5 (2006), 1368-1379.
 49. Chen, Y., Morita, H. and Zhu, Joe, Context-dependent DEA with an application to Tokyo public libraries, *International Journal of Information Technology and Decision Making*, Vol. 4, No. 3 (2005), 385-394.
 48. Huang, Z.M., Li, S.X. and Zhu, Joe, A Special Issue on "Data Envelopment Analysis: Theories and Applications" in honor of William W. Cooper,

- International Journal of Information Technology and Decision Making, Vol. 4, No. 3 (2005), 311-316.
47. Seiford, L.M. and Zhu, Joe, Notes on sensitivity and stability of the classifications of returns to scale in data envelopment analysis: A comment, *Journal of Productivity Analysis*, Vol. 23, No. 3 (2005), 315-316.
 46. Morita, H., Hirokawa, K and Zhu, Joe, A slack based measure of efficiency in context dependent data envelopment analysis, *OMEGA*, Vol. 33, Issue 4 (2005), 357-362.
 45. Cook, W.D. and Zhu, Joe, Allocation of shared costs among decision making units: A DEA approach, *Computers & Operations Research*, Vol 32, Issue 8 (2005), 2171-2178.
 44. Cook, W.D. and Zhu, Joe, Building performance standards into DEA structures, *IIE Transactions*, Vol 37, Issue 3 (2005), 267-275.
 43. Gregoriou, G.N., Sedzro, K. and Zhu, Joe, Hedge fund performance appraisal using data envelopment analysis, *European Journal of Operational Research*, Vol. 164, Issue 2 (2005), 555-571.
 42. Seiford, L.M. and Zhu, Joe, A response to comments on modeling undesirable factors in efficiency evaluation, *European Journal of Operational Research*, Vol. 161, Issue 2 (2005), 579-581.
 41. Cook, W.D., Seiford, L.M. and Zhu, Joe, Models for performance benchmarking: Measuring the effect of e-commerce activities on banking performance, *OMEGA*, Vol. 32, Issue 4 (2004), 313-322.
 40. Zhu, Joe, Imprecise DEA via standard linear DEA models with a revisit to a Korean mobile telecommunication company, *Operations Research*, Vol. 52, No. 2 (2004), 323-329.
 39. Chen, Y. and Zhu, Joe, Measuring information technology's indirect impact on firm performance, *Information Technology & Management Journal*, Vol. 5, Issue 1-2 (2004), 9-22.
 38. Banker, R.D., Cooper, W.W., Seiford, L.M., Thrall, R.M. and Zhu, Joe, Returns to scale in different DEA models. *European Journal of Operational Research*, Vol. 154, Issue 2 (2004), 345-362.
 37. Zhu, Joe, A buyer-seller game model for selection and negotiation of purchasing bids: Extensions and New Models, *European Journal of Operational Research*, Vol. 154, Issue 1 (2004), 150-156.
 36. Chen, Y. and Zhu, Joe, DEA Models for Identifying critical performance measures, *Annals of Operations Research*, Vol.124, No. 1-4 (2003), 225-244.
 35. Morita, H. and Zhu, Joe, Models for characterizing and measuring supply chain efficiency and achieving best practice. *System, Control and Information*, Vol. 16, No. 8, (2003), 388-396. (in Japanese)

34. Chen, Y., Morita, H. and Zhu, Joe, Multiplier bounds in DEA via strong complementary slackness condition solution, *International Journal of Production Economics*, Vol. 86, No. 1, (2003), 11-19.
33. Seiford, L.M. and Zhu, Joe, Context-dependent data envelopment analysis: measuring attractiveness and progress. *OMEGA*, Vol. 31, Issue 5, (2003), 397-480.
32. Cook, W.D. and Zhu, Joe, Output deterioration with input reduction in data envelopment analysis, *IIE Transactions*, Vol. 35, No. 3, (2003), 309-320.
31. Johnson, S.A. and Zhu, Joe, Identifying top applicants in recruiting using data envelopment analysis, *Socio-Economic Planning Sciences*, Vol. 37, Issue 2 (2003), 125-139.
30. Zhu, Joe, Efficiency evaluation with strong ordinal input and output measures, *European Journal of Operational Research*, Vol. 146, Issue 3 (2003), 477-485.
29. Zhu, Joe, Imprecise data envelopment analysis (IDEA): A review and improvement with an application, *European Journal of Operational Research*, Vol. 144, Issue 3 (2003), 513-529.
28. Seiford, L.M. and Zhu, Joe, Value judgment versus allocative efficiency: a case of Tennessee county jails, *Journal of Management Sciences & Regional Development*, Issue 4, July (2002), 89-98.
27. Li, S., Zhimin Huang, Zhu, Joe and Patrick Y. K. Chau, Cooperative advertising, game theory and manufacturer-retailer supply chains, *OMEGA*, Vol.30, Issue 5 (2002), 347-357.
26. Seiford, L.M. and Zhu, Joe, Modeling undesirable factors in efficiency evaluation, *European Journal of Operational Research*, Vol. 142, Issue 1 (2002), 16-20.
25. Zhu, Joe, A multidimensional quality-of-life measure with an application to Fortune's best cities, *Socio-Economic Planning Sciences*, Vol. 35, Issue 4 (2001), 263-284.
24. Cooper, W.W., Seiford, L.M., and Zhu, Joe, Slacks and congestion: response to a comment by R. Fare and S. Grosskopf, *Socio-Economic Planning Sciences*, Vol. 35, Issue 3 (2001), 205-215.
23. Wilkens, K. and Zhu, Joe, Portfolio evaluation and benchmark selection: A mathematical programming approach, *Journal of Alternative Investments*, Vol. 4, No. 1, Summer, (2001), 9-19.
22. Cooper, W.W., Li, S., Seiford, L.M., Thrall, R.M. and Zhu, Joe, Sensitivity and stability analysis in DEA: some recent developments, *Journal of Productivity Analysis*, Vol. 15, No. 3 (2001), 217-246.
21. Zhu, Joe, Super-efficiency and DEA sensitivity analysis. *European Journal of Operational Research*, Vol. 129, Issue 2 (2001), 443-455.

20. Zhu, Joe, Further discussion on DEA and linear production function. *European Journal of Operational Research*, Vol. 127, Issue 3 (2000), 611-618.
19. Zhu, Joe, Setting scale efficient targets in DEA via returns to scale estimation method. *Journal of Operational Research Society*, Vol. 51, No. 3 (2000), 376-378.
18. Zhu, Joe, Multi-factor performance measure model with an application to Fortune 500 companies. *European Journal of Operational Research*, Vol. 123, Issue 1, (2000), 105-124.
17. Cooper, W.W., Seiford, L.M. and Zhu, Joe, A unified additive model approach for evaluating inefficiency and congestion with associated measures in DEA. *Socio-Economic Planning Sciences*, Vol. 34, Issue 1 (2000), 1-25.
16. Seiford, L.M. and Zhu, Joe, Profitability and marketability of the top 55 US commercial banks. *Management Science*, Vol. 45, No. 9 (September 1999), 1270-1288.
15. Seiford, L.M. and Zhu, Joe, Infeasibility of super efficiency data envelopment analysis models. *INFOR, Information Systems & Operational Research*, Vol. 37, No. 2, (May 1999), 174-187.
14. Seiford, L.M. and Zhu, Joe, Sensitivity and stability of the classification of returns to scale in data envelopment analysis. *Journal of Productivity Analysis*, Vol. 12, No. 1, (1999), 55-75.
13. Seiford, L.M. and Zhu, Joe, An investigation of returns to scale under data envelopment analysis. *OMEGA, International Journal of Management Science*, Vol. 27, No. 1 (1999), 1-11.
12. Seiford, L.M. and Zhu, Joe, Sensitivity analysis of DEA models for simultaneous changes in all the data. *Journal of the Operational Research Society*, Vol. 49, No. 10 (1998), 1060-1071.
11. Zhu, Joe, Data envelopment analysis vs. principal component analysis: An illustrative study of economic performance of Chinese cities. *European Journal of Operational Research*, Vol. 111, Issue 1, (1998), 50-61.
10. Seiford, L.M. and Zhu, Joe, On alternative optimal solutions in the estimation of returns to scale in DEA. *European J. of Operational Research*, Vol. 108, No. 1, (1998) 149-152.
9. Seiford, L.M. and Zhu, Joe, Stability regions for maintaining efficiency in data envelopment analysis. *European Journal of Operational Research*, Vol. 108, Issue. 1, (1998), 127-139.
8. Seiford, L.M. and Zhu, Joe, Identifying excesses and deficits in Chinese industrial productivity (1953-1990): A weighted data envelopment analysis approach. *OMEGA, International Journal of Management Science*, Vol. 26, No. 2 (1998), 279-296.

7. Ray, S., Seiford, L.M., and Zhu, Joe, Market entity behavior of Chinese state-owned enterprises. *OMEGA, International Journal of Management Science*, Vol. 26, No. 2 (1998), 263-278.
6. Seiford, L.M. and Zhu, Joe, On piecewise loglinear and log efficiency measures. *Computers and Operations Research*, Vol. 25, No. 5, (1998), 389-395.
5. Seiford, L.M. and Zhu, Joe, An acceptance system decision rule with data envelopment analysis. *Computers and Operations Research*, Vol. 25, No. 4, (1998), 329-332.
4. Zhu, Joe, DEA/AR analysis of the 1988-1989 performance of the Nanjing Textile Cooperation. *Annals of Operations Research*, Vol. 66, (1996), 311-335.
3. Zhu, Joe, Robustness of the efficient DMUs in data envelopment analysis. *European Journal of Operational Research*, Vol. 90, Issue 3 (1996), 451-460.
2. Zhu, Joe, Data envelopment analysis with preference structure. *Journal of Operational Research Society*, Vol. 47, No.1 (1996), 136-150.
1. Zhu, Joe, and Z. Shen, A discussion of testing DMUs' returns to scale. *European Journal of Operational Research*, Vol. 81, Issue 3 (1995), 590-596.

Book Chapters

12. Morita, H. and Zhu, Joe, Context-dependent DEA and its use, in *Modeling Data Irregularities and Structural Complexities in Data Envelopment Analysis*, Chapter 13, 241-260, eds J. Zhu and W.D. Cook, Springer, Boston, 2007.
11. Cook, W.D., Liang, L., Yang, F. and Zhu, Joe, DEA Models for Supply Chain or Multi-Stage Structure, in *Modeling Data Irregularities and Structural Complexities in Data Envelopment Analysis*, Chapter 11, 189-208, eds J. Zhu and W.D. Cook, Springer, Boston, 2007.
10. Chen, Y. and Zhu, Joe, Interval and Ordinal Data, in *Modeling Data Irregularities and Structural Complexities in Data Envelopment Analysis*, Chapter 3, 35-62, eds J. Zhu and W.D. Cook, Springer, Boston, 2007.
9. Cook, W.D. and Zhu, Joe, Rank Order Data in DEA, in *Modeling Data Irregularities and Structural Complexities in Data Envelopment Analysis*, Chapter 2, 13-34, eds J. Zhu and W.D. Cook, Springer, Boston, 2007.
8. Cook, W.D. and Zhu, Joe, Data Irregularities and Structural Complexities in DEA, in *Modeling Data Irregularities and Structural Complexities in Data*

- Envelopment Analysis*, Chapter 1, 1-12, eds J. Zhu and W.D. Cook, Springer, Boston, 2007.
7. Morita, H. and Zhu, Joe, Context-dependent DEA--public libraries, in *Productivity Analysis in the Service Sector with Data Envelopment Analysis*, Chapter 19, ed N. Avkiran, Australia, 2006.
 6. Cooper, W.W., Deng, H. Seiford, L.M. and Zhu, Joe, Congestion: Its identification and management with DEA, in *Handbook on Data Envelopment Analysis*, Chapter 7, 177-201, eds W.W. Cooper, L.M. Seiford and J. Zhu, Kluwer Academic Publishers, Boston. 2004.
 5. Cooper, W.W., Li, S., Seiford, L.M. and Zhu, Joe, Sensitivity analysis in data envelopment analysis, in *Handbook on Data Envelopment Analysis*, Chapter 3, 75-97, eds W.W. Cooper, L.M. Seiford and J. Zhu, Kluwer Academic Publishers, Boston. 2004.
 4. Banker, R.D., Cooper, W.W., Seiford, L.M. and Zhu, Joe, Returns to scale in data envelopment analysis, in *Handbook on Data Envelopment Analysis*, Chapter 2, 41-73, eds W.W. Cooper, L.M. Seiford and J. Zhu, Kluwer Academic Publishers, Boston. 2004.
 3. Cooper, W.W., Seiford, L.M. and Zhu, Joe, Data envelopment analysis: History, models and interpretations, in *Handbook on Data Envelopment Analysis*, Chapter 1, 1-39, eds W.W. Cooper, L.M. Seiford and J. Zhu, Kluwer Academic Publishers, Boston. 2004.
 2. Wilkens, K. and Zhu, Joe, Classifying hedge funds using data envelopment analysis, in *Hedge Funds: Strategies, Risk Assessment, and Returns*, Chapter 10, 161-175, eds G.N. Gregoriou, V.N. Karavas, and F. Rouah, BeardBooks, Washington, D.C. 2003.
 1. Seiford, L.M. and Zhu, Joe, Classification invariance in data envelopment analysis, in *Uncertainty and Optimality: Probability, Statistics & Operations Research*, Chapter 10, 331-342, ed. J.C. Misra, World Scientific, Singapore, 2002.

Books

6. Zhu, Joe, Quantitative Models for Performance Evaluation and Benchmarking: Data Envelopment Analysis with Spreadsheets. 2nd edition. Springer Science, Boston. 2009
5. Cook, W.D. and Zhu, Joe, Data Envelopment Analysis: Modeling Operational Processes and Measuring Productivity, 2008.
4. Sherman, D.H. and Zhu, Joe, Service Productivity Management: Improving Service Performance using Data Envelopment Analysis, Springer Science,

- Boston. 2006.
3. Gregoriou, G.N. and Zhu, Joe, Evaluating Hedge Fund and CTA Performance: Data Envelopment Analysis Approach, John Wiley & Sons, New York. 2005.
 2. Cook, W.D. and Zhu, Joe, Designing and Modeling Performance Evaluation Issues, Springer Science, 2005.
 1. Zhu, Joe, Quantitative Models for Performance Evaluation and Benchmarking: Data Envelopment Analysis with Spreadsheets. Kluwer Academic Publishers, Boston. 2003.

Edited Books

3. Cooper, W.W., Seiford, L.M. and Zhu, Joe, Handbook on Data Envelopment Analysis. Springer, New York. 2011 (2nd edition)
2. Zhu, Joe and Cook, W.D., Modeling Data Irregularities and Structural Complexities in Data Envelopment Analysis, Springer Science, 2007
1. Cooper, W.W., Seiford, L.M. and Zhu, Joe, Handbook on Data Envelopment Analysis. Kluwer Academic Publishers, Boston. 2004.

Edited Journal Special Issues

5. Cook, W.D., Seiford, L.M. and Zhu, Joe, Data Envelopment Analysis: The Research Frontier, *OMEGA, The International Journal of Management Science*, in process.
4. Cook, W.D. and Zhu, Joe, Data Envelopment Analysis and Its Applications to Management, *Journal of CENTRUM Cathedra*, Vol. 4 (2011), Issue 2. Business school of the Pontificia Universidad Católica del Perú.
3. Zhu, Joe, Management Science Research in China: A Special Issue Dedicated to the 2008 Beijing Olympic Games, *OMEGA, The International Journal of Management Science*, Vol. 36, Issue 6, 2008.
2. Cook, W.D. and Zhu, Joe, Performance Evaluation and Beyond: Data Envelopment Analysis Research Frontiers, *Annals of Operations Research* Special Issue, Vol. 145, No. 1, 2006.
1. Huang, Z.M., Li, S.X. and Zhu, Joe, Data Envelopment Analysis: Theories and Applications, *International Journal of Information Technology and Decision Making* Special Issue, Vol. 4, No. 3, 2005.

Editorial Work

- **Area Editor**, OMEGA journal, (2008--present)
- **Associate Editor**, OMEGA journal, (2004--2008)
- **Associate Editor**, INFOR, (2007--present)
- **Associate Editor**, Asia-Pacific Journal of Operational Research (2004--2008)
- **Editorial Board Member**, Computers & Operations Research (2005--present)
- **Guest Editor**, Annals of Operations Research, International Journal of Information Technology and Decision Making, OMEGA

Invited Talks

25. Efficiency and Productivity: Seaports and Marine Fleets Performance, National Taiwan Ocean University, December 28, 2011.
24. *DEA Game Cross Efficiency and Modeling DEA in Excel*, Soochow University, Taipei, Taiwan, December 16, 2011.
23. *DEA Game Cross Efficiency and Applications*, International Conference on Data Envelopment Analysis and Its Applications to Management, September 14-16, 2011. (**Keynote speech**)
22. *DEA Methodology and Applications*, Nanjing University of Posts and Telecommunications (NUPT), June 21, 2011, Nanjing, China.
21. *How to Publish in Top Journals and Do High Quality PhD Research*, School of Management, University of Science & Technology of China, Hefei, China, June 14, 2011.
20. *DEA Methodology and Applications*, Auhui University, June 13, 2011, Hefei, China.
19. *DEA Game Cross Efficiency*, International DEA Symposium, 27-29 September 2010, Brisbane, Australia. (**Keynote speech**)
18. *Data Envelopment Analysis (DEA) –How and Where Do We Apply It?* Department of Finance and Quantitative Analysis, University of Otago, Dunedin, New Zealand, June 28, 2010.
17. *Data Envelopment Analysis (DEA): An Introduction*, School of Commerce, University of Otago, Dunedin, New Zealand, June 29, 2010.
16. *Additive Efficiency Decomposition in Two-Stage Network*, 4th Symposium on Data Envelopment Analysis, Taiwan, Jan 19-21, 2010. (**Keynote speech**)

15. *How to Publish in International Journals*, Department of Industrial and Information Management, the National Cheng Kung University, Taiwan, December 31, 2009
14. *DEA Models and Frontier for Two-Stage Processes*, Taiwanese Productivity Conference (**Plenary Session**), National Taiwan University, Taipei, Taiwan, July 15, 2009.
13. *Network and Multi-stage Data Envelopment Analysis*, Advanced Lecture Series on Productivity and Efficiency organized by Institute of Economics, Academia Sinica of Taiwan and National Taiwan University, July 14, 2009.
12. *Data Envelopment Analysis: How, What, and Where*, Erasmus Research Institute of Management (ERIM) Research Seminar, Netherlands, June 18, 2009.
11. *Modeling Two-Stage Processes by DEA*, DEA Symposium 2009, Osaka University Nakanoshima Center, Osaka, Japan, January 13, 2009.
10. *Data Envelopment Analysis 30 Years: New Models*, Institute of Policy and Management, Chinese Academy of Sciences, Beijing, China, July 3, 2008.
9. *PhD Research: How to Achieve High-Quality*, School of Management, University of Science & Technology of China, Hefei, China, June 14, 2008.
8. *An Introduction to Data Envelopment Analysis (DEA)*, Department of Information and Physical Sciences, Osaka University, Osaka, Japan, June 15, 2007.
7. *Context-dependent Assurance Region DEA (CAR-DEA)*, National Graduate Institute for Policy Studies, Tokyo, Japan, May 26, 2007
6. *How to Publish in Top Journals*, College of Management, Ming Chuan University, Taipei, Taiwan, Jan 10, 2007.
5. *Performance Evaluation and Benchmarking Using DEA*, Department of Industrial and Information Management, the National Cheng Kung University, Taiwan, Jan 4, 2007.
4. *Data Envelopment Analysis: What DEA Can Do*, Department of Mechanical & Industrial Engineering, Northeastern University, Boston, October 27, 2006.
3. *New Benchmarking Approaches and Applications*, MBA Seminar Series, School of Management, University of Science & Technology of China, Hefei, China, May 19, 2005.
2. *Data Envelopment Analysis (DEA) and Its Applications*, Research Seminar Series, School of Business and Economics, State University of New York, Plattsburgh, New York, November 21, 2003.
1. *Context-dependent DEA: A new DEA Approach*, Japanese DEA Seminar, National Graduate Institute for Policy Studies, Tokyo, Japan, June 15-18, 2002.

Fellowships & Grants

- Use DEA to Develop Composite Measures of Quality of Care, Department of Veterans Affairs, 2010-2011. (\$75,000)
- William Evans Visiting Fellow, Department of Finance & Quantitative Analysis, University of Otago, Dunedin, June-July, 2010.
- Research Fellowship, Osaka University, June, 2007 (\$5,000)
- Visiting Professorship grant, Department of Industrial and Information Management, the National Cheng Kung University, Taiwan, 2007. (US\$4,700)
- NIH grant “Comparative Evaluation of Nursing Homes”, Phase II 2002-2005, sub-contracted as a consultant from Crystal Decision System.
- Hospital Quality Measurement & Reporting, KPMG & UIUC Business Measurement Research Program, \$100,000, June – September, 2003.
- Japan Society for Promotion of Science (JSPS) Invitation Fellowship for Research in Japan (Short-term), \$12,000 (May-July, 2002)
- Using Discovery-Based Learning to Explore the Lean Design of Global Supply Chains, NSF, \$49,969, 1/1/02-6/30/03. (Co-PI)
- Using Discovery-Based Learning to Explore the Lean Design of Global Supply Chains, Educational Development Council, Worcester Polytechnic Institute, 2001. (Co-PI)
- Managing the Information Technology (IT) Investment in E-business and E-Supply Chain Design, WPI Research Development Council 2001.

Professional Activities

- **Reviewer and panelist** for Division of Design, Manufacture, and Industrial Innovation, National Science Foundation.
- **Reviewer** for Social Sciences and Humanities Research Council of Canada.
- **Reviewer** for Natural Sciences and Engineering Research Council of Canada.
- **Reviewer** for Research Grants Council (RGC) of Hong Kong.
- **Invited as an expert** in Data Envelopment Analysis to participate in an National Science Foundation Sponsored Workshop on Engineering Applications of DEA at Union College, Schenectady, NY, December 10-11, 1999.
- **Book reviewer** Kluwer Academic Publishers.
- **Advisory Board Member** of the North American Productivity Workshop 2004, June 23-25, University of Toronto, Canada.

- **Cluster Co-Chairperson**, “Data Envelopment Analysis Cluster”, INFORMS National Meeting, November 4-7, 2006, Seattle.
- **Cluster Co-Chairperson**, “Data Envelopment Analysis Cluster”, INFORMS National Meeting, November 5-8, 2006, Pittsburgh.
- **Cluster Co-Chairperson**, “Data Envelopment Analysis Cluster”, INFORMS International Meeting, June 25-28, 2006, Hong Kong, China.
- **Cluster Co-Chairperson**, “Data Envelopment Analysis Cluster”, INFORMS National Meeting, Nov. 13-16, 2005 San Francisco, CA.
- **Cluster Co-Chairperson**, “Data Envelopment Analysis Cluster”, CORS/INFORMS Joint International Meeting-Banff, May 16-19, 2004, Alberta, Canada.
- **Cluster Co-Chairperson**, “Data Envelopment Analysis Cluster”, INFORMS National Meeting, November 17-20, 2002, San Jose, CA.
- **Stream Co-Chairperson**, “Data Envelopment Analysis Cluster”, International Federation of Operational Research Societies Meeting, July 8-12, 2002, Edinburgh.
- **Cluster Co-Chairperson**, “Data Envelopment Analysis Cluster”, INFORMS National Meeting, November 4-7, 2001, Miami, FL.
- **Cluster Co-Chairperson**, “Data Envelopment Analysis Cluster”, INFORMS International Meeting, June 17-20, 2001, Maui.
- **Cluster Co-Chairperson**, “Data Envelopment Analysis Cluster”, INFORMS National Meeting, November 5-8, 2000, San Antonio, TX.
- **Cluster Co-Chairperson**, “Data Envelopment Analysis Cluster”, INFORMS/KORMS International Meeting, June 18-21, 2000, Seoul, Korea.
- **Cluster Co-Chairperson**, “Data Envelopment Analysis Cluster”, INFORMS National Meeting, May 7-10, 2000, Salt Lake City, UT.
- **Panel Organizer and Panelist**, Panel: “DEA Applications in E-commerce”, INFORMS National Meeting, November 5-8, 2000, San Antonio, TX.
- **Session Chairperson**, "Applications of Management Science Techniques", 31st Annual Meeting of the Decision Sciences Institute, November 18-21, 2000, Orlando, FL.
- **Session Chairperson**, "New DEA Developments and Uses II", Invited Session for INFORMS/KORMS International Meeting, June 18-21, 2000, Seoul, Korea.
- **Session Chairperson**, "Applications of DEA", Invited Session for INFORMS National Meeting, May 7-10, 2000, Salt Lake City, UT.
- **Session Chairperson**, "Data Envelopment Analysis", Invited session for INFORMS National Meeting, November 7-10, 1999, Philadelphia, PA.
- **Session Chairperson**, "DEA & Application", Invited Session for INFORMS National Meeting, May 2-5, 1999, Cincinnati, OH.
- **Session Chairperson**, “DEA Refinements & Extensions” Invited session, INFORMS National Meeting, Oct. 25-28, 1998, Seattle, WA.

- **Referee** for

Management Science

Operations Research
European Journal of Operational Research
Journal of the Operational Research Society
Naval Research Logistics
Annals of Operations Research
OMEGA, The International Journal of Management Science
Journal of Manufacturing
Journal of Productivity Analysis
Operations Research Letters
Socio-Economic Planning Sciences
Computers and Operations Research
Journal of Business Research
Applied Stochastic Models and Data Analysis
Networks
INFOR
Journal of Cost Analysis & Management
International Transactions in Operations Research
Economics of Education Review
Computers & Mathematics with Applications
Encyclopedia of Information Systems
Computers & Industrial Engineering
Health Care Management Science
Organization Science

- **International Scientific and Advisory Committee Member**, International Conference on Data Envelopment Analysis and Its Applications to Management, September 14-16, 2011.
- **Doctoral Committee**
 - ✓ School of Business Administration Hebrew University of Jerusalem, Mount Scopus, Israel
 - ✓ Plenary dissertation committee member for Rotterdam School of Management of Erasmus University, Netherlands
- **Member of INFORMS**, Institute for Operations Research and the Management Sciences

Service to Worcester Polytechnic Institute (WPI)

- WPI's Committee on Appointments and Promotions
- Fringe Benefits Committee
- Dean of Business Search Committee
- Department's Faculty Development & Tenure Committee

- Business Calculus Task Force
- National Survey of Student Engagement Task Force
- Committee on WPI's forum on Doing Business in China
- Industrial Engineering Committee
- Graduate Policy & Curriculum Committee
- Undergraduate Policy & Curriculum Committee
- School of Business Taskforce
- AACSB Curriculum Development Committee
- Industrial Engineering Faculty Search Committee
- Economics Faculty Search Committee