

International Operations and Supply Chain Management

MGMT 6393 Fall 2018

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Office: BUSN 206 **Phone:** (915) 747 6041

Class Hours: W 9:00 – 11:50 a.m. BUSN 307

Office Hours: W 12:00 – 1:00 p.m. & R 12:00 - 3:00 p.m.

Reference Books:

Operations Management: Sustainability and Supply Chain Management Plus MyOmLab with Pearson eText -- Access Card Package, 12th Edition by Jay Heizer, Barry Render, and Chuck Munson. 2017. Pearson, ISBN-10: 0134130421, ISBN-13: 978-0134130422.

Supply Chain Network Design, Applying Optimization and Analytics to the Global Supply Chain, by Michael Watson, Sara Lewis, Peter Cacioppi, and Jay Jayaraman, FT Press (ISBN - 10: 0133017370 ISBN - 13: 9760133017373).

Quantitative Models for Performance Evaluation and Benchmarking, by Joe Zhu, Springer (ISBN: 978-0-387-85981-1).

How to Implement Lean Manufacturing, by Lonnie Wilson, McGraw Hill, Second Edition (ISBN: 978-0-07-183573-2).

The travels of a T-shirt in the global economy, by Pietra Rivoli, Wiley, Second Edition (ISBN: 978-0-470-28716-3).

Food Supply Chain Management, by Madeleine Pullman and Zhaohui Wu, Routledge (ISBN: 978-0-415-88589-8).

Course description (*From Goldmine*)

This seminar reviews recent research in operations and supply chain management. Examples of topics include supply chain management, revenue management, operations strategy, production planning, new product development, acquisition, transformation, and distribution of goods and services within the global supply chain, and tools and strategies to design and manage operations. The course also examines the strategic implications of operations and supply chain management issues as they relate to firm performance process management. Particular emphasis is placed on sourcing, operations design, quality, inventory, logistics, enabling information systems and technology, and global issues.

Objectives

At the completion of this course, students will be able to:

1. Select and organize the global trends and challenges facing operations and supply chain management.
2. Distinguish and judge the key design issues associated with supply chain processes.
3. Value the major causes of dynamics in a supply chain.
4. Evaluate and contribute to the international operations and supply chain management literature.

Course Operation

Students will be assigned articles to review and discuss for each session. Article summaries for all articles are required from each student each session. The summaries must be uploaded to Blackboard before each session. Three papers capable of submission are required of each student.

Grading Policy:

- 15 % Research articles summaries
- 25 % Research paper one
- 30 % Research paper two
- 30 % Research paper three

COURSE POLICIES

1. Academic Integrity

Cheating is unethical and not acceptable. Plagiarism is using information or original wording in a paper without giving credit to the source of that information or wording; it is also not acceptable. Do not submit work under your name that you did not do yourself. You may not submit work for this class that you did for another class. If you are found to be cheating or plagiarizing, you will be subject to disciplinary action, per UTEP catalog policy. Refer to <http://www.utep.edu/dos/acadintg.htm> for further information.

2. Missed Sessions

You are expected to come to class, pay attention, and take good notes. If you miss the class, it is your responsibility to obtain notes from your classmates and complete the corresponding assignments.

3. Need for Assistance

If you have a disability and need classroom accommodations, please contact The Center for Accommodations and Support Services (CASS) at 747-5148, or by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at www.sa.utep.edu/cass.

4. Student Responsibility

Individual students must operate with integrity in their dealings with faculty and other students; engage the learning materials with appropriate attention and dedication; maintain their engagement when challenged by difficult learning activities; contribute to the learning of others; and perform to standards set by the faculty.

Note: This is a tentative syllabus and the instructor reserves the right to make appropriate changes.

Course Outline

Session 1 August 29

OSCM Topic: Operations and Productivity (Ch 1) & Operations Strategy in a Global Environment (Ch 2)

Research Topic: Data Envelopment Analysis

Charnes, A., Cooper, W. W., & Rhodes, E. (1978). Measuring the efficiency of decision making units. *European journal of operational research*, 2(6), 429-444.

Donthu, N., Hershberger, E. K., & Osmonbekov, T. (2005). Benchmarking marketing productivity using data envelopment analysis. *Journal of Business Research*, 58(11), 1474-1482.

Guajardo, S. A. (2015). Assessing organizational efficiency and workforce diversity: An application of data envelopment analysis to New York City agencies. *Public Personnel Management*, 44(2), 239-265.

Work on research paper one (lit review, data, data analysis)

Session 2 September 5

OSCM Topic: Project Management (Ch 3)

Research Topic: Data Envelopment Analysis

Lafuente, E., Szerb, L., & Acs, Z. J. (2016). Country level efficiency and national systems of entrepreneurship: a data envelopment analysis approach. *The Journal of Technology Transfer*, 41(6), 1260-1283.

Alzua-Sorzabal, A., Zurutuza, M., Rebón, F., & Gerrikagoitia, J. K. (2015). Obtaining the efficiency of Tourism Destination website based on Data Envelopment Analysis. *Procedia-Social and Behavioral Sciences*, 175, 58-65.

Haugland, S. A., Myrtveit, I., & Nygaard, A. (2007). Market orientation and performance in the service industry: A data envelopment analysis. *Journal of Business Research*, 60(11), 1191-1197.

Ablanedo-Rosas, J. H., & Gemoets, L. A. (2010). Measuring the efficiency of Mexican airports. *Journal of Air Transport Management*, 16(6), 343-345.

Ablanedo-Rosas, J. H., Gao, H., Zheng, X., Alidaee, B., & Wang, H. (2010). A study of the relative efficiency of Chinese ports: a financial ratio-based data envelopment analysis approach. *Expert systems*, 27(5), 349-362.

Work on research paper one (lit review, data, data analysis)

Session 3 September 12

OSCM Topic: Forecasting (Ch 4)

Research Topic: Data Envelopment Analysis

Huang, C. W., Chen, H. Y., & Ting, C. T. (2017). Using a network data envelopment analysis model to assess the efficiency and effectiveness of cultural tourism promotion in Taiwan. *Journal of Travel & Tourism Marketing*, 34(9), 1274-1284.

Yang, Z., Shi, Y., & Yan, H. (2016). Scale, congestion, efficiency and effectiveness in e-commerce firms. *Electronic Commerce Research and Applications*, 20, 171-182.

Lee, K. H., & Saen, R. F. (2012). Measuring corporate sustainability management: A data envelopment analysis approach. *International Journal of Production Economics*, 140(1), 219-226.

Shuai, J. J., & Wu, W. W. (2011). Evaluating the influence of E-marketing on hotel performance by DEA and grey entropy. *Expert systems with applications*, 38(7), 8763-8769.

Wu, J., Sun, J., Liang, L., & Zha, Y. (2011). Determination of weights for ultimate cross efficiency using Shannon entropy. *Expert Systems with Applications*, 38(5), 5162-5165.

Research paper data is due

Session 4 September 19

OSCM Topic: Design of Goods and services (Ch 5) & Sustainability in the Supply Chain (Supplement 5)

Research Topic: Data Envelopment Analysis

Rahman, M., Lambkin, M., & Hussain, D. (2016). Value creation and appropriation following M&A: A data envelopment analysis. *Journal of Business Research*, 69(12), 5628-5635.

Zaman, M., Botti, L., & Vo Thanh, T. (2016). Does managerial efficiency relate to customer satisfaction? The case of Parisian boutique hotels. *International Journal of Culture, Tourism and Hospitality Research*, 10(4), 455-470.

Chen, C. M., Delmas, M. A., & Lieberman, M. B. (2015). Production frontier methodologies and efficiency as a performance measure in strategic management research. *Strategic Management Journal*, 36(1), 19-36.

Xu, J., Wei, J., & Zhao, D. (2016). Influence of social media on operational efficiency of national scenic spots in china based on three-stage DEA model. *International Journal of Information Management*, 36(3), 374-388.

Shabani, A., Saen, R. F., & Vazifehdoost, H. (2013). The use of data envelopment analysis for international market selection in the presence of multiple dual-role factors. *International Journal of Business Information Systems*, 13(4), 471-489.

Data analysis is due

Session 5 September 26

OSCM Topic: Managing Quality (Ch 6) & Statistical Process Control (Supplement 6)

Research Topic: Main Path Analysis

Zhou, H., Yang, Y., Chen, Y., & Zhu, J. (2018). Data envelopment analysis application in sustainability: The origins, development and future directions. *European Journal of Operational Research*, 264(1), 1-16.

Cavaignac, L., & Petiot, R. (2017). A quarter century of Data Envelopment Analysis applied to the transport sector: A bibliometric analysis. *Socio-Economic Planning Sciences*, 57, 84-96.

Cardenas, J. A., Gemoets, L., Rosas, J. H. A., & Sarfi, R. (2014). A literature survey on smart grid distribution: an analytical approach. *Journal of Cleaner Production*, 65, 202-216.

Silva, J. T. M., Ablanedo-Rosas, J. H., & Rossetto, D. E. (2018). A longitudinal literature network review of contributions made to the academy over the past 55 years of the IJPR. *International Journal of Production Research*, 1-27.

Wolfswinkel, J. F., Furtmueller, E., & Wilderom, C. P. (2013). Using grounded theory as a method for rigorously reviewing literature. *European journal of information systems*, 22(1), 45-55.

Lit review, DEA & data analysis are due

Session 6 October 3

OSCM Topic: Process Strategy (Ch 7) & Capacity and Constraint Management (Supplement 7)

Research Topic: Main Path Analysis

Martínez-Jurado, P. J., & Moyano-Fuentes, J. (2014). Lean management, supply chain management and sustainability: a literature review. *Journal of Cleaner Production*, 85, 134-150.

Gurtu, A., Searcy, C., & Jaber, M. Y. (2015). An analysis of keywords used in the literature on green supply chain management. *Management Research Review*, 38(2), 166-194.

De Medeiros, J. F., Ribeiro, J. L. D., & Cortimiglia, M. N. (2014). Success factors for environmentally sustainable product innovation: a systematic literature review. *Journal of Cleaner Production*, 65, 76-86.

Brandenburg, M., Govindan, K., Sarkis, J., & Seuring, S. (2014). Quantitative models for sustainable supply chain management: Developments and directions. *European Journal of Operational Research*, 233(2), 299-312.

Beske, P., Land, A., & Seuring, S. (2014). Sustainable supply chain management practices and dynamic capabilities in the food industry: A critical analysis of the literature. *International Journal of Production Economics*, 152, 131-143.

Paper draft is due

Session 7 October 10

OSCM Topic: Location Strategies (Ch 8)

Research Topic: Main Path Analysis

Agrawal, S., Singh, R. K., & Murtaza, Q. (2015). A literature review and perspectives in reverse logistics. *Resources, Conservation and Recycling*, 97, 76-92.

Ahi, P., & Searcy, C. (2015). An analysis of metrics used to measure performance in green and sustainable supply chains. *Journal of Cleaner Production*, 86, 360-377.

Massaroni, E., Cozzolino, A., & Wankowicz, E. (2014). Sustainability in supply chain management-a literature review.

Fahimnia, B., Sarkis, J., & Davarzani, H. (2015). Green supply chain management: A review and bibliometric analysis. *International Journal of Production Economics*, 162, 101-114.

Govindan, K., Soleimani, H., & Kannan, D. (2015). Reverse logistics and closed-loop supply chain: A comprehensive review to explore the future. *European Journal of Operational Research*, 240(3), 603-626.

Literature review topic is due

Session 8 October 17

OSCM Topic: Layout Strategies (Ch 9)

Research Topic: Main Path Analysis

Kumar, D., & Rahman, Z. (2015). Sustainability adoption through buyer supplier relationship across supply chain: A literature review and conceptual framework. *International strategic management review*, 3(1-2), 110-127.

Yawar, S. A., & Seuring, S. (2017). Management of social issues in supply chains: a literature review exploring social issues, actions and performance outcomes. *Journal of Business Ethics*, 141(3), 621-643.

Taticchi, P., Garengo, P., Nudurupati, S. S., Tonelli, F., & Pasqualino, R. (2015). A review of decision-support tools and performance measurement and sustainable supply chain management. *International Journal of Production Research*, 53(21), 6473-6494.

Chen, L., Zhao, X., Tang, O., Price, L., Zhang, S., & Zhu, W. (2017). Supply chain collaboration for sustainability: A literature review and future research agenda. *International Journal of Production Economics*.

Rajeev, A., Pati, R. K., Padhi, S. S., & Govindan, K. (2017). Evolution of sustainability in supply chain management: A literature review. *Journal of Cleaner Production*, 162, 299-314.

Literature review papers are due

Session 9 October 24

OSCM Topic: Human Resources, Job Design, and Work Measurement (Ch 10)

Research Topic: Supply Chain Modeling

Jawahar, N., & Balaji, A. N. (2009). A genetic algorithm for the two-stage supply chain distribution problem associated with a fixed charge. *European Journal of Operational Research*, 194(2), 496-537.

Jawahar, N., & Balaji, N. (2012). A genetic algorithm based heuristic to the multi-period fixed charge distribution problem. *Applied Soft Computing*, 12(2), 682-699.

Panicker, V. V., Sridharan, R., & Ebenezer, B. (2012). Three-stage supply chain allocation with fixed cost. *Journal of Manufacturing Technology Management*, 23(7), 853-868.

Literature review analysis is due

Session 10 October 31

OSCM Topic: Supply Chain Management (Ch 11) & Supply Chain Management Analytics (Supplement 11)

Research Topic: Supply Chain Modeling

Coskun, S., Ozgur, L., Polat, O., & Gungor, A. (2016). A model proposal for green supply chain network design based on consumer segmentation. *Journal of Cleaner Production*, 110, 149-157.

Stolze, H. J., Mollenkopf, D. A., & Flint, D. J. (2016). What is the right supply chain for your shopper? Exploring the shopper service ecosystem. *Journal of Business Logistics*, 37(2), 185-197.

Hasani, A. A. (2016). Competitive supply chain network design considering marketing strategies: A hybrid metaheuristic algorithm. *International Journal of Supply and Operations Management*, 3(3), 1429.

Peng, Y., Ablanedo-Rosas, J. H., & Fu, P. (2016). A multiperiod supply chain network design considering carbon emissions. *Mathematical Problems in Engineering*.

Introduction and analysis discussion are due

Session 11 November 7

OSCM Topic: Inventory Management (Ch 12)

Research Topic: Supply Chain Modeling

Asllani, A., & Halstead, D. (2011). USING RFM DATA TO OPTIMIZE DIRECT MARKETING CAMPAIGNS: A LINEAR PROGRAMMING APPROACH. *Academy of Marketing Studies Journal*, 15.

Nobibon, F. T., Leus, R., & Spieksma, F. C. (2011). Optimization models for targeted offers in direct marketing: Exact and heuristic algorithms. *European Journal of Operational Research*, 210(3), 670-683.

Schön, C. (2010). On the optimal product line selection problem with price discrimination. *Management Science*, 56(5), 896-902.

Paper draft is due

Session 12 November 14

OSCM Topic: Aggregate Planning and S&OP (Ch 13)

Research Topic: Supply Chain Modeling

Cetin, F., & Alabas-Uslu, C. (2017). Heuristic solution to the product targeting problem based on mathematical programming. *International Journal of Production Research*, 55(1), 3-17.

McBride, R. D., & Zufryden, F. S. (1988). An integer programming approach to the optimal product line selection problem. *Marketing Science*, 7(2), 126-140.

Nair, S. K., Thakur, L. S., & Wen, K. W. (1995). Near optimal solutions for product line design and selection: Beam search heuristics. *Management Science*, 41(5), 767-785.

Mathematical formulation is due

Session 13 November 21

OSCM Topic: Material Requirements Planning (MRP) and ERP (Ch 14)

Research Topic: Supply Chain Modeling

Cohen, M. D. (2004). Exploiting response models—optimizing cross-sell and up-sell opportunities in banking. *Information Systems*, 29(4), 327-341.

Sousa, J. M., Kaymak, U., & Madeira, S. (2002). A comparative study of fuzzy target selection methods in direct marketing. In *Fuzzy Systems, 2002. FUZZ-IEEE'02. Proceedings of the 2002 IEEE International Conference on* (Vol. 2, pp. 1251-1256). IEEE.

Chen, K. D., & Hausman, W. H. (2000). Mathematical properties of the optimal product line selection problem using choice-based conjoint analysis. *Management Science*, 46(2), 327-332.

Bhattacharyya, S. (1999). Direct marketing performance modeling using genetic algorithms. *INFORMS Journal on Computing*, 11(3), 248-257.

Solution of the mathematical formulation is due

Session 14 November 28

OSCM Topic: Short-Term Scheduling (Ch 15)

Research Topic: Supply Chain Modeling

Delanote, S., Leus, R., & Nobibon, F. T. (2013). Optimization of the annual planning of targeted offers in direct marketing. *Journal of the Operational Research Society*, 64(12), 1770-1779.

Sundararajan, R., Bhaskar, T., Sarkar, A., Dasaratha, S., Bal, D., Marasanapalle, J. K., ... & Bak, K. (2011). Marketing optimization in retail banking. *Interfaces*, 41(5), 485-505.

Hopp, W. J., & Xu, X. (2005). Product line selection and pricing with modularity in design. *Manufacturing & Service Operations Management*, 7(3), 172-187.

Mathematical Definition and Discussion sections are due

Session 15 December 5

OSCM Topic: JIT, TPS, and Lean Operations (Ch 16)

Research Topic: Supply Chain Modeling

Ghoniem, A., Maddah, B., & Ibrahim, A. (2016). Optimizing assortment and pricing of multiple retail categories with cross-selling. *Journal of Global Optimization*, 66(2), 291-309.

Oliveira, T. A., Coelho, V. N., Souza, M. J., Boava, D. L. T., Boava, F., Coelho, I. M., & Coelho, B. N. (2015). A hybrid variable neighborhood search algorithm for targeted offers in direct marketing. *Electronic Notes in Discrete Mathematics*, 47, 205-212.

Dursun, M., & Goker, N. (2018). A 2-tuple integrated DEA-based approach for neuromarketing technology evaluation. *Kybernetes*.

Literature review is due

Final Exam December 14

Paper draft is due