

*The Hong Kong Polytechnic University*  
*Department of Logistics and Maritime Studies*  
*Research Seminar*

**Part I: Research Applications of the Design Structure Matrix (DSM)**  
**Part II: Publishing in the *Journal of Operations Management***

by

**Prof. Tyson R. BROWNING**  
**Professor of Operations Management**  
**Department of Information Systems and Supply Chain Management**  
**Neeley School of Business**  
**Texas Christian University**

**Date: 14 March 2019 (Thursday)**

**Time: 10:00am - 11:45am**

**Venue: N101, Block N**

**The Hong Kong Polytechnic University**

**(Conducted in English)**

**Abstract:**

**Part I:** The design structure matrix (DSM) is a powerful tool for visualizing, analyzing, innovating, and improving systems—including product designs, organizational structures, and process flows. The DSM is a square matrix showing relationships between system elements, which can be product components, software code packages, teams, activities, etc. By analyzing a DSM, one can prescribe a better (e.g., more modular) system architecture or organization. Adding a time-basis to the model enables one to prescribe a faster, lower-risk process. Because the DSM highlights process feedbacks, it helps identify iterations, cycles, and rework loops (key drivers of cost and schedule risk). This presentation will provide several examples of how operations management researchers have used the DSM in varied contexts and applications.

**Part II:** This presentation will provide information about the *Journal of Operations Management* and discuss some recent developments and new directions.

**Bio:**

Dr. Tyson R. Browning is an internationally recognized researcher, educator, and consultant. He is a full Professor of Operations Management in the Neeley School of Business at Texas Christian University, where he conducts research on managing complex projects (integrating managerial and engineering perspectives) and teaches MBA courses on project management, operations management, risk management, and process improvement. A sought-after speaker, he has trained and advised several organizations, including BNSF Railway, General Motors, Lockheed Martin, Northrop Grumman, Seagate, Siemens, Southern California Edison, and the U.S. Navy. He has also served as an expert witness in legal proceedings.

Prior to joining TCU in 2003, he worked for Lockheed Martin, the Lean Aerospace Initiative at the Massachusetts Institute of Technology (MIT), Honeywell Space Systems, and Los Alamos National Laboratory. He earned a B.S. in Engineering Physics from Abilene Christian University before two Master's degrees and a Ph.D. from MIT.

His research results appear in journals such as *California Management Review*, *Decision Sciences*, *IEEE Transactions on Engineering Management*, *Journal of Mechanical Design*, *Journal of Operations Management*, *Manufacturing & Service Operations Management*, *MIT Sloan Management Review*, *Production & Operations Management*, *Project Management Journal*, and *Systems Engineering*. He is also the co-author of a book on the Design Structure Matrix (DSM). He has given over 160 academic and industry presentations and workshops in 17 countries.

Having previously served as a Department or Associate Editor for three journals, he is currently co-Editor-in-Chief of the *Journal of Operations Management*. He is a member of several professional societies: Academy of Management, Decision Sciences Institute, Institute for Operations Research and the Management Sciences, International Council on Systems Engineering, Production and Operations Management Society, and Project Management Institute.

Please email to [clare.lau@polyu.edu.hk](mailto:clare.lau@polyu.edu.hk) for enquiries.

**All are welcome!**