



Operations Research and Engineering Management Seminar Series

Research Seminar **Assessing the Value of Information in Supply Chain:** ***A Case for Enterprise Systems Informatics Approach***

Presented by:
Dr. Charu Chandra



Tuesday, December 7, 2021
11:00 a.m. – 12:00 p.m.
Caruth 147

Abstract

In this talk, I shall present an overview of my research activities on investigating enterprise systems and supply chain management problems from the perspective of design and modeling issues that arise in managing information for logistics / provider networks in manufacturing and service enterprises. Specifically, I shall present my efforts in developing inter-disciplinary knowledge in Enterprise System Informatics (ESI) as the basis for study of enterprise systems and supply chain problems with the fusion of theory, computation, and application components adopted from Systems and Informatics fields of research.

In this framework, an enterprise / supply chain is posited as a System-of-Systems: that is, a collection of individual business entities organized as a composite system with their resources and capabilities pooled to obtain an interoperable and synergistic system that possesses common and shared goals and objectives. Informatics facilitates this system's integration by processing and sharing information among enterprise / supply chain entities for improved decision-making. Through this research, it is planned to contribute to advancing conceptual and theoretical foundations of ESI. To achieve this goal, I am particularly interested in testing the efficacy of the

body of knowledge available in Systems Theory, Axiomatic Design, Information Science, Data Science, and Industrial Engineering & Operations Research fields applied uniquely to issues and problems in the enterprise systems applications domain.

I will describe how in the current global supply chain disruption situation, an approach to multiple-steps forecasts can be applied to restrain the bullwhip effect and improve inventory performance. I will also present implementation of augmented analytics for an application of campus services to students.

Biography

Charu Chandra, Ph.D., is the Donald Ross Cowan Endowed Collegiate Professor and Professor of Operations Management in the College of Business and before a Professor of Industrial and Manufacturing Systems Engineering in the College of Engineering and Computer Science at the University of Michigan-Dearborn. Charu was a post-doctoral fellow at Los Alamos National Laboratory in Los Alamos, New Mexico, and the Industrial Engineering Division, Department of Mechanical Engineering, University of Minnesota, Minneapolis. His Ph.D. and master's degrees are in industrial engineering and operations research from the Arizona State University, Tempe and the University of Minnesota, Minneapolis.

His research interests are in applied operations research and information engineering. He has carved out a niche in Enterprise System Informatics research and uses it as the basis for the study of enterprise systems and supply chain problems with the fusion of theory, computation, and application components adopted from Systems and Informatics fields of research. His current focus is on studying problems in health care and augmented analytics.

He has published over 75 articles in peer-reviewed journals EJOR, ANOR, Omega, IJPR, JMS, Computers and Industrial Engineering, IEEE Transactions on Engineering Management, Data and Knowledge Engineering, Experts Systems with Applications, The Engineering Economist, Journal of Engineering Education, Journal of Engineering Design among others. He has a Google Scholar Citations of 3599 and h-index of 29. In addition, he has published 3 books, 12 book chapters, edited 3 special issues, and over 50 conference proceedings. He has given over 30 academic presentations and several technical workshops. He has also actively participated in Program Committees of several national and international academic conferences and workshops.

Charu has served for over 20 years in various capacities of Editor-in-Chief, Area Editor, Associate Editor, and the Editorial Board Member of 13 journals. He is the current Editor-in-Chief of the International Journal of Health Care Quality Assurance.

He has secured over several million dollars funded research grants at his current institution as well as at the Los Alamos National Laboratory.

He has developed 3 graduate programs and 1 doctoral program at his institution. He teaches courses in Operations Research and Management Science, Experiential Learning, and Applied Statistics.

His many awards include the prestigious 2021 College of Business Researcher of the Year Award, 2015-2016 Distinguished Performance in Research Award from the College of Business, and the 2015 University Distinguished Research Award for outstanding contribution to research and scholarship from the University of Michigan-Dearborn.

Charu is a member of academic societies IISE, INFORMS, Institute of Supply Management, Academy Health and Association for the Advancement of Artificial Intelligence.