

Digital Supply Chain Management Transformation - A New Approach to Making Sense of Advanced Technologies to Improve Supply Chain Management

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Abstract

The challenges of supply chain management have been growing. The globalization of trade and advancements in technologies have enabled large-scale, multi-tiered supply chains that take advantage of a global network of highly specialized suppliers, which enable focus on core competencies while partnering with those who have expertise in complementary activities. The access to greater capabilities at lower cost has increased complexity and manageability. This has led to greater calls for technologies to provide support. The assumption is that we can use technology to better share information to coordinate and collaborate on aligning supply capabilities with customer demand. However, the challenge is sorting the 'ready to implement' from the 'not ready for primetime'. Additionally, for the 'ready to implement', the challenge is where and how to best implement these technologies so that they can make a difference. In this regard, there are two objectives of this paper. The first is to present the results of the work we have done in understanding the readiness of these technologies and presenting a framework for better assessing their readiness for deployment. The second objective is to present a supply chain framework that builds off of the work we have done at NYU to leverage the use of LSS and integrate TOC (the Theory of Constraints) and TCE (Transaction Cost Economics) to better understand how to apply these technologies to greater effect. We will use case studies to illustrate how both these objectives can be met with the frameworks and methodologies presented.

Keywords

Digital Supply Chain Management, Transformation, Advanced Technologies, Supply Chain Management

Biography

Thomas Mazzone received a BS in Business Administration from the University of Notre Dame in 1982, and an MBA in Strategy, Technology and Innovation from EDHEC Business School in Nice, France in 1991. He is an Industry Professor and the Academic Director of the Industrial engineering program located in the Department of Technology Management and Innovation at NYU's Tandon School of Engineering. Professor Mazzone has developed many courses centered on team and leadership development, operations and supply chain management, project delivery, innovation, and strategic change management. Under his leadership the program has grown by 40% and achieved its first ever US News and World ranking and is current ranked 48. The program's main areas of focus are business transformation and continuous improvement; operations and supply chain management; and operations research and systems analytics. Professor Mazzone has been an active member of the IISE and was recently elected to the North American Operations Board/International Operations Board (NAOB)(IOB) as Regional Vice President for the North East. Professor Mazzone's main areas of research are in the areas of health care systems and digital supply chain transformation. Additionally, Professor Mazzone is an accomplished executive leader with wide-ranging industry and international experience designing, developing, and delivering large-scale, multi-million-dollar, multi-year technology-driven operational and technology change programs.