

Modelling the Dynamics of Supply Chain Alignment

In most markets one sees leaders who outperform their rivals through tightly connected planning, forecasting and replenishment activities. A number of these “supply chain leaders” come to mind: Seven Eleven in Japan, Tesco in the UK, Cemex in Mexico and Wal-Mart in the U.S. Closer scrutiny indicates that the performance gap between these leaders and the average competitor is also getting wider in almost every industry and is related to the extent to which the company can develop modularised “architectural knowledge” (see attached article). For those Australian companies wanting to learn from these role models several questions come to mind regarding disparate customer behaviour, unique firm specific capabilities and their alignment.

The Centre for Corporate Change, along with partners at the University of Wollongong, have recently expanded our work on supply chain design and configuration by applying unique experimental methods to the structure of design of supply chains. Rather than basing supply chain design on engineering principles alone, we approach the supply chain from the perspective of the user—asking what is the nature of the best design for usability—and the strategist—asking how can the supply chain be a source of sustainable competitive advantage.

This work grew out of three streams of research developed at the Centre for Corporate Change—that on the development of e-commerce (seen in Coltman, Devinney, Latukefu & Midgley “E-Business: Evolution, Revolution or Hype? *California Mgt Review*, 2001), that on experimental methods (see our other CCC brief on modelling decisions), and that on optimal institutional design (seen in Carson, Devinney, Dowling & John “Understanding Institutional Designs Within Marketing Value Systems,” *J. of Marketing*, 1999). Its most recent incarnation can be seen in the attached article by Richard and Devinney, “Modular Strategies: B2B Technology and Architectural Knowledge”.

This work has received substantial funding from the Australian Research Council and involves experts in strategy (Professor Devinney and PhD student Pierre Richard), IT (Dr. Coltman), supply chain operations (Dr. John Gattorna), and optimisation theory (Prof. Andersen). In the past the focus was on the use of the B2B ecommerce, whereas the current work involves teaming up with groups such as DHL to analyse optimal large scale supply chain design.

If you would like more information about this work or want to be involved with it, please contact Pauline Olive at (02) 9931 9502 or ccc@agsm.edu.au or Dr. Tim Coltman at tcoltman@uow.edu.au.