

# The Supply Chain Collaboration Online Research Simulator

**Kewal Dhariwal and Peter Carr**

Athabasca University  
[kewal\\_dhariwal@mba.athabascau.ca](mailto:kewal_dhariwal@mba.athabascau.ca)

## ABSTRACT

Supply chain collaboration is set to accelerate in future years. Evidence from a survey conducted with funding from the Canadian Purchasing Research Foundation is presented and it is argued that understanding of the exploitation of this environment is in its infancy.

Recently Athabasca University commenced a research project on supply chain collaboration. Funded and supported by the Canadian Foundation for Innovation, the Alberta Provincial government, SAP and IBM, this project is focused on developing an online model of a fully data integrated supply chain. A simulation model is being used to help us learn how the business community will best use this supply chain environment of the future.

Networked private communications between supply team members, data visibility, push versus pull systems, post-simulation performance analysis, group strategy formulation, strategy delivery and team discipline in networked environment are all aspects of research under consideration.

A fully functional simulator of a data integrated supply chain environment supported by a complete range of online collaboration tools is currently being field tested and may be demonstrated at this symposium. It is available to researchers online throughout the world to develop their understanding of supply chain collaboration and networked resources management at [www.athabascau.ca/scm](http://www.athabascau.ca/scm) or [www.sccori.com](http://www.sccori.com)

## Keywords

Supply Chain Management, Collaboration, Information Technology, Simulation, Networked Management, Immediate Messaging, Networked Learning, Strategy, formulation, Networked Team Discipline, Communications, Data Visibility, and Adaptive Businesses Networks

## INTRODUCTION

This paper introduces the Supply Chain Collaboration Online Simulator, which is based within the Supply Chain Collaboration Online Research Institute at Athabasca University's Centre for Innovative Management. Supply chain technologies are likely to be used significantly more in future years as business-to-business technology integration becomes easier. Our understanding of the exploitation of these technologies is in its infancy. The Simulator will enable research to be undertaken which will improve this.

## The Supply Chain Management Philosophy

Christopher (1998) describes Supply Chain Management as:

*“planning and co-ordinating the materials flow from source to user as an integrated system rather than, as was so often the case in the past, managing the goods flow as a series of independent activities... the goal is to link the marketplace, the distribution network, the manufacturing process and the procurement activity in such a way that customers are serviced at higher levels and yet at lower cost. In other words to achieve the goal of competitive advantage through both cost reduction and service enhancement.”*

There are four elements of his definition that are important:

*“planning and coordinating”*

Supply Chain Management is about “planning and coordinating” the supply chain - a conscious process takes place to determine how the supply chain should be structured and how it should operate. This is in contrast to

the ad hoc arrangements, which exist in many supply chains today where little “planning and coordinating” is evident.

*“integrated system”*

The supply chain is an “integrated system” and the actions of any part of the chain have implications for the other parts. The management of this integrated system should be based on a view of the system as a whole and decisions that are made should properly take into account their impact on that.

*“competitive advantage”*

The purpose of Supply Chain Management is to gain “competitive advantage”. As the supply chain is viewed as an “integrated system” this competitive advantage is gained by management of this system as a whole. Competition is not now seen as being between individual organisations but rather between supply chains – the whole process of the production of a good or service will determine the cost and quality delivered.

*“cost reduction and service enhancement”*

Supply Chain Management is an approach that can be used to both reduce costs and improve quality and service. It is often argued that these objectives cannot be pursued together – improved service is said to require additional cost. Instead, through better inventory and waste management and the application of collaborative continuous improvement activities, both objectives can be achieved.

This poster session will discuss how the supply chain simulator provides a new technology for supporting networked learning.

## REFERENCES

- Christopher, M. (1998), Logistics and Supply Chain Management, Strategies for Reducing Cost and Improving Service, 2<sup>nd</sup> Edition, Financial Times, Prentice Hall, London.
- Chatterjee, A., Satpathy, A., Ganguli, N., Kumaresh, T. (2002), Collaboration: Key To World Class Quality, Quality, June 2002, Vol. 41, Iss. 6; pg 51.
- Liker, J., Yu, Y., (2002), Japanese Automakers, US Suppliers and Supply Chain Superiority, MIT Sloan Management Review, Cambridge, Fall 2000, Vol 42, Iss. 1 pg 82.
- Emiliani, M.L., (2003), The Inevitability of Conflict Between Buyers and Sellers, Supply Chain Management, Bradford, 2003. Vol. 8, Iss. 2., pg. 107.
- Baker, G., (2002), The Effects of Synchronous Collaborative Technologies On Decision Making: A Study of Virtual Teams, Information Resources Management Journal, Hershey, Oct-Dec 2002, Vol. 15, Iss. 4, pg 79.
- Sahin, F., Robinson, E.P., (2002), Flow Coordination and Information Sharing in Supply Chains: Review, Implications, and Directions for Future Research, Decision Sciences, Atlanta, Fall 2002, Vol. 33, Iss. 4; pg. 505.
- Simatupang, T.M., Sridharan, R., (2002), The Collaborative Supply Chain, International Journal of Logistics Management, Ponte Verde Beach, 2002. Vol. 13, Iss. 1; pg 15.