Chapter 15

Could Cloud Systems’ Strategies Be Aligned to Suit Supply Chain Sustainability with Innovation Goals?

Fawzy Soliman
University of Technology, Sydney, Australia

ABSTRACT

Innovation and sustainability are both gaining significant prominence in business and management research in recent years. However there is little work published about alignment of cloud system strategies with supply chain main goals. This chapter seeks to explore the alignment of cloud system with sustainable supply chains. Furthermore the chapter investigates the degree to which sustainability and innovation affect the cloud system strategies within supply chain firms. The chapter identifies a close alignment of the key strategies for innovation also being focused on sustainability. The chapter presents a debate on Sustainable Supply Chain Management with emphasis on the importance of intensive cooperation and collaborations that could help to further their sustainability agenda.

INTRODUCTION

Most organisations seek to optimize both operational efficiency and cost of various phases of their supply chains. These include planning, forecasting, sourcing, procurement, spare parts management, logistics, and services. Supply chain management (SCM) involve activities such as design, planning, execution, control, and supply chain monitoring towards the creation of value, development of a competitive infrastructure, optimal utilization of worldwide logistics, matching demand with supply and measurement of performances globally.

Recent technological developments have enabled organizations to avail information easily within their locations. Such technologies significantly help coordinate the management of supply chain activities. Active supply chain management thus leads to the maximization of customer value and increased achievements in sustainable competitive advantages. It is thus necessary for supply chain firms to run operations

DOI: 10.4018/978-1-4666-6445-6.ch015
Could Cloud Systems’ Strategies Be Aligned to Suit Supply Chain Sustainability?

in the most efficient and effective ways possible. These operations cover a wide range of activities like product development, product sourcing, production, logistics, and the information systems required for coordination.

Cloud computing has recently emerged as a useful technology platform which can contribute to the optimization of supply chains by providing infrastructure and software solutions through the internet. Employment of cloud-based services leads to both operational and financial benefits. This is typically done by lowering costs due to on-premises infrastructure, providing supply chain visibility, scalability of platforms and flexibility in collaboration with partners (Anderson, et al., 2003).

Cloud computing may be considered as an amalgamation of techniques from distributed computing, virtualization, networking and web services. It may be defined as a form of distributed system comprised of a collection of virtualized processors which are dynamically provisioned together, as a unified computing resource based on established service-level agreements the service provider and consumers (Buyya et al 2008). A cloud architecture can consist of several elements like clients, data centres and distributed servers. Software components are used for fault tolerance, scalability, high availability, flexibility, overhead reduction, reduced cost of ownership and on demand services.

A Cloud system typically eliminates the problem of maintaining compatibility across various systems and provides simplified access to every part of a supply chain. This enables supply increased collaboration among supply chain partners. Supply chain members may enter the collaborative cloud environment through member ids and passwords. This authorizes the users to operate simple processes in cloud, while reducing response time. Also provided is supply chain visibility along multiple participants. Increased visibility helps in the coordination of operations and management of numerous customers. It also allows the customer network to perceive the entire system in a transparent manner. Cloud-based systems help provide real time visibility shipments and inventory thus improving logistics tracking. Hence, companies may control their system capacity more accurately. Thus, with the advent of cloud computing, companies now have the opportunity to adjust their capacities automatically based on their needs. The cloud thus allows to scale their computing power based on fluctuations in demand (Lohr, 2007).

In order to achieve to optimize cost. many companies have begun selecting the Technology as tool as we all know most of the companies are in this path to achieve their goal eg; ERP system, EDI system and we all moving to CLOUD system. These technologies are very use full and helpful to coordinates the process to manage the supply chain and these technology giving a good platform to supply chain firms to develop and run supply chains in the most effective & efficient ways. Supply chain activities cover everything from product development, sourcing, production, and logistics, as well as the information systems needed to coordinate these activities.

The cloud system also provides the scalability of services level, which proves to be cost effective for the companies. For example WMOS (Warehouse Management Operation System), ERP application (SAP), SRM, CRM and data analysis applications can be easily moved to cloud systems like Amazon S3 services, and where it is easy to activate new processors instances as the demand comes from the customer.

Cloud System Impact on Supply Chain Functions

1. Forecasting and Demand Planning: Through the cloud system organisations ability to share and collaborate with each other could lead to a WIN WIN to most participants. If manufactures need to plan their productions or inventory level for their