Chapter 15
Cloud Computing:
A Wave in Service Supply Chain

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ABSTRACT

The service supply chain involves transfer of products from manufacturer to customer through series of path, that includes from a supplier to manufacturer, then to wholesaler, retailer and finally to customer. With the growth of IT industry, business is getting dependent on IT. The service supply chain increases or decreases depending upon demand. So it needs scalable distributed system rather than a centralized one. The cloud computing has become a great solution for providing a flexible, on-demand and dynamically scalable computing infrastructure for many applications. It provides significant technology trends and it is reshaping and blooming the IT industry. The service supply chain information collaboration based on cloud provides effective and efficient information based on cloud computing technologies such as Software as a Service (SaaS), Platform as a Service (PaaS) and Infrastructure as a Service (IaaS).

INTRODUCTION

In the modern world globalization of economies have made business very competitive as a result service supply chain management have become more important for the organizations. Modern world companies are trying to optimize both cost and operational efficiency of their service supply chain. Service supply chain management is defined as the design, planning, execution, control, and monitoring of service supply chain activities for increasing the net value, building competitive infrastructure, for influencing the business world, synchronizing supply with the demand, and measuring global performance. Technological advancement enables organizations to avail information very easily. In today's advancing world

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service supply chain with cloud environment is the best option for the firms to provide best services to their customer in fast, reliable and cheaper way. Customer demands change every day, at times demands increases while sometimes it decreases, in such situation it becomes very difficult for organizations to meet their demands using a centralized system so they are adopting more scalable distributed system to meet the varied range of demand. Service supply chain management, is the active management of service supply chain activities to maximize customer value and achieve sustainable competitive advantage. It represents a conscious effort by service supply chain firms to develop and run service supply chains in most effective and efficient ways possible. Service supply chain activities cover everything from product development, sourcing, production, logistics as well as the information systems needed to coordinate these activities.

Cloud computing infrastructure enhances the customisation and scalability of resource acquisition, usage and maintenance, such that greater masses can be served by a single data centre. It provides optimization to the firms by providing infrastructure, platform and software as a service to whole service supply chain through the use of internet. Thus use of cloud in service supply chain provides both operational and financial benefit to the organizations. Financial benefits are in terms of lower cost as compared to on-premises infrastructure cost and on the basis of performance it provides service supply chain visibility, platform scalability and flexibility.

Cloud computing involves virtualization, distributed computing, web services and networking. A cloud computing is parallel and distributed system of interconnected virtualized computers that are dynamically provisioned and presented as unified computing resources based on service-level agreements between service provider and customer. A Cloud infrastructure consists of data centre, clients and distributed servers. It also includes provision of fault tolerance, availability, scalability, flexibility, reduced overhead for users, reduced cost of ownership, on demand services.

Main advantage of cloud-based service supply chain is its simplification. Cloud eliminates the problem of compatibility by using same platform access and provides easy connection to every part of service supply chain. All users are authorized to operate simple process and application in the same platform, which reduces response time of service supply chain partners. Another benefit is visibility which provides timely connectivity along multiple service supply chain participants, it allows companies to coordinate their operations and have a transparent view of the entire system. Thus cloud computing helps companies to optimize their overall performance. This chapter focuses on the use of cloud computing in service supply chain management and how cloud computing have brought a huge difference in the field of service supply chain management (SCM).

LITERATURE REVIEW

History and Future of Cloud in Service Supply Chain

Use of cloud in SCM is a new approach towards development. The development of cloud in SCM over the years is discussed below (schramm. et.al 2010).

During the year2010-2011 processes and providers supplying cloud needed innovation and continuous improvement. Testing was also needed at regular interval. The processes were supportive and administrative, and never needed complex integration, were easy to abstract and isolate. examples: Capability