International Journal of Academic Research and Development
ISSN: 2455-4197
Impact Factor: RJIF 5.22
www.academicsjournal.com
Volume 3; Issue 2; March 2018; Page No. 249-251

Technological interventions for improving supply chain agility

[1] Dr. Ruchika Dawar, [2] Dr. Sanjeev Kumar KM
[1] Assistant Professor, National Institute of Fashion Technology, Jodhpur, Rajasthan, India
[2] Professor, Akkamahadevi Women's University, Vijaypura, Karnataka, India

Abstract
Nowadays supply chain issues hold prime importance for competitive differentiation hence various strategies are constantly being incorporated by companies to resolve inefficiencies existing in the supply chain model, in order to impart more transparency among the stakeholders. Online retailer's supply chain example is different from traditional retailers which works on supply and demand mechanism unlike online retailers where they concentrate precisely on the fast delivery modes like Amazon, Flipkart and Myntra to name a few. Amazon has got far ahead by introducing 'Drone' services in order to fulfil the urgent need of the customers.
Supply chain models drastically changed since the adoption of emerging technologies. There are many technological interventions in the existing supply chain model which have facilitated smoother supply chain activities. To prepare the model more effective retailers constantly look for the newer trends in technology and incorporate them accordingly, to broadcast information quickly among the supply chain members in parliamentary procedure to dilute the 'Bullwhip effect'. ERP systems form the basis for many retailers followed by SAP and other software applications like QAD, In for and many more. After huge investments retailers opt for ERP foundations, though they are satisfied but still improvement is something which everybody aspires for.
Aside from the basal software applications installed, retailers improvise on their specific supply chain areas with the help of some specialty tools like TMS, WMS, Planning Engines, labor optimization, inventory management and many more. These are deployed in layers and hard to modify with the changing business conditions.
This paper prognosticates and proposes such technological interventions, which, when incorporated in the system lays the basis for agile Supply Chain. To overcome the limitations of above legacy systems the idea of "Cloud" based software will certainly rectify the deformities in the supply chain activities and further ruminating on the planning and distribution issues "Supply Chain Mobile App" promises to provide agility to the existing supply chain models.

Keywords: technological, management, supply chain mobile app

Introduction
Supply Chain management has grown manifold accommodating different operational strategies and incorporating newer technologies. However, considering the changing business dynamics and ever-increasing demands of customers an effective synchronisation across the supply chain activities of planning, distribution and transportation still remains a challenge. Technology is being constantly up-graded in order to deliver faster, reliable, seamless and accurate information. Supply chain senior managers keep devising new strategies to make the system robust and efficient.
Amazon has got far ahead by introducing 'Drone' services in order to fulfil the urgent need of the consumers. Online retailer's supply chain example is different from traditional retailers which works on supply and demand mechanism unlike online retailers where they concentrate precisely on the fast delivery modes like Amazon, Flipkart and Myntra to name a few. ERP systems form the basis for many retailers followed by SAP and other software applications like QAD, Infor and many more.
There is an imminent need of technological up gradation, which would provide solutions to overcome the limitations of the above legacy systems being used in the supply chain.
The idea of "Cloud" based software will certainly rectify the deformities in the supply chain activities and further ruminating on the planning and distribution issues "Supply Chain Mobile App" promises to provide agility to the existing supply chain models connecting the geographically dispersed stakeholders under one banner.

Cloud-A Basic Definition
Cloud is an innovation solution for agile supply chain. The cloud builds on the legacy systems like ERP, QAD, SAP calling evolution for the software applications.

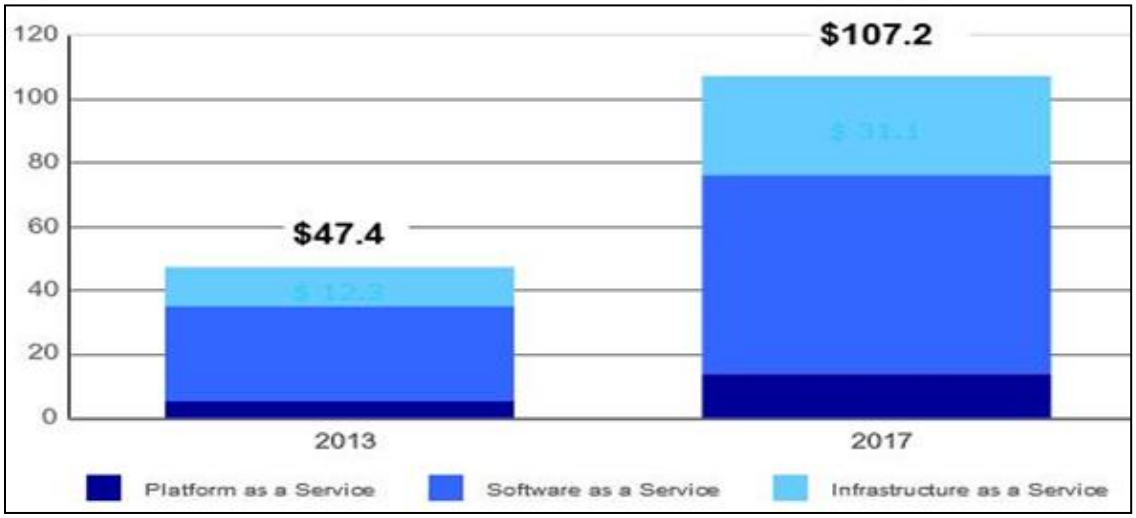

Fig 1: Worldwide Public IT Cloud Services Spending by Segment (in $ billion)

***Source*:** KPMG-The Cloud-changing the Ecosystem-2011

Fig 2

Benefits

Following limitations can be overcome by the applicability of Cloud.

Flexibility of access

Sits users a greater flexibility whether inter-departmental or even with partners outside the company. It allows expansion of supply chain networks.

Cost

The heavy software as well as hardware deployments costs are reduced as cloud offers different mode of services and makes the company's get rid of their hardware installation costs. Secondly the rental service model of cloud popularly known as Iaas (Infrastructure as a service) allows for the investment as per your requirement. The companies may use the Cloud services only when required and pay for the usage.

Easing the pressure on it departments

Companies are dependent on their IT department to deliver more with less. The IT department task remains just to maintain the existing softwares. The department is under continuous strain both from financial and human resource perspective. The data reveals that only 11% of the budget is allocated for new applications in IT department hence leveraging cloud will certainly address the business issues of maintenance by using (Paas) Platform as a service.

The above characteristics make cloud application much more valid for supply chain enhancements than the existing software applications. Better supply design is possible with the advent of cloud Computing.

Other benefits accorded with the Cloud Applications

Visibility

Agility to react to market shifts remains a challenge for most of the retailers. Take for example The Limited, a large apparel retailer shifted to cloud when the company observed that the sales information reached them after a week. Though the data had high degree of accuracy but it was stale. The visibility was of historic events which were not very useful for adjusting the supply chain. This lack of timely visibility made it impossible to manage the supply chain with enough agility to react to market shifts. The software used was ill suited for instantaneous visibility to demand. This is a situation where application of cloud will turn around the business with respect to visibility.

Supply chain is about faster, reliable and complete point to point communications with your extended supply chain partners. A majority of companies are still relying on E-mails, phone calls and faxes for their extensive supply chain communications. Shifting to cloud would definitely replace the obsolete method of point to point communications.

This transition is visible in "Caterpillar" brand. Prior to shifting to cloud the brand was managing their multi-billion dollar business through phones, faxes and emails. Using these obsolete technologies it was impossible for them to coordinate such complex orchestration of receiving and delivering their machinery. The company leveraged a cloud platform in their expansive network to send their EDI messages. It saw a vast improvement in visibility across the entire network.

Connectivity

Better visibility is about better connectivity. The point to point communication tools like telephone and telegraph was revolution of their times. Advent of internet surely paved the way for new era of communications. Here the cloud is essentially helpful in maintaining connectivity without large capital expenses. Though there are set of standard procedures which need to be followed but once that standardisation is achieved adding another node is inexpensive and effortless. One can expect free flow of seamless information and connectivity along different verticals.

This was the case with Vodafone a mobile giant with 500 million customers and 50 partners in over 30 countries, a robust and efficient supply chain was compulsory to manage its vast supply chain network. They shifted to cloud to manage their expansive network streamlining both the internal as well as the external processes. The efficient flow of information thus greatly reduced the costs with instantaneous access to sourcing options apart from the market visibility.

Collaboration

On-boarding a new trade partner is one area where the companies face some degree of cost or time hurdles which can be instantaneously reduced with the application of cloud. There are numerous examples where in a large and comprehensive suppliers network can be communicated in no time and even on-boarding a new partner can take as less as 4 hrs. This speed at such a low cost is impossible by the use of traditional EDI.

Pooling of transportation resources is another form of collaboration. Nike and Adidas are rivals yet their logistics provider is the same that is DHL since they know this association will benefit both the parties. The cloud offers such cost savings without revealing the competitively sensitive information.

SESA Me (Solution for e-Supply Applications for Manufacturing) a natural evolution from the traditional point to point communications taken by L'Oreal provided their key suppliers visibility and a two way communication was set up which was earlier a one-way dictated process. This was all possible with the advent of cloud which streamlined the process of information to flow faster allowing better visibility and reduces the burden of costs on heavy hardware and software installations and provides better connectivity, collaboration and visibility.

Millenial application for supply chain

'Supply Chain Mobile App'

The scaling up of the vast supply chain network on a mobile platform is yet another remarkable evolution which is useful for seamlessly faster delivery of information across parties. The proposal of 'Supply Chain Mobile app' seems to solve the purpose. The ubiquitous mobile phones have become an essential device where we can see faster accessibility to information. Apart from using mobiles for social connectivity it can also be incorporated in the expansive supply chain network for accessing data in no time and even a highly comprehensive network can be easily connected anywhere, anytime under one platform.

Some Examples of Mobile Usage from supply chain and logistics perspective

Real time Proof of Delivery (POD) by moving from paper based POD to mobile based on-field services, can help driven

- Instant transfer of POD details to a centralized TMS system
- Labour productivity improvement

Cycle counting of stock on mobile, and feeding to centralized inventory systems using interactive user screens and customized attributes can ensure

- Accurate inventory maintenance
- Labor productivity improvement

Automated GPS capturing and reporting of required compliance data, such as for U.S. State Fuel Tax forms and Department of Transportation (DOT), will promote

- Cost effective regulatory compliance by automating volume intensive and complex paperwork
- Labor productivity improvement

Seamless cross–docking by enabling on the spot visibility into order management, and providing required real time information, can deliver

- Labor productivity improvement
- Increased efficiency in the movement of material and goods between docks

Conclusion

The application of "Cloud Computing" and "Supply Chain Mobile App" in Supply Chain is apparently the trend which is visible as most of the retailers are constantly moving to cloud for their different business processes. Embracing the above technology will also bring the lower rung employees in the loop proving it to be a socially responsible technology which would enhance technical skills and will connect all the stakeholders into one platform irrespective of their geographical location. The movement to these technologies is fraught with more opportunities than risks.

References

1. A Break in the Clouds: Towards a Cloud Definition. Vaqeuro, Rodero-Merino, Caceres and Linder, 2009.
2. The Cloud-Changing the Business Ecosystem-KPMG
3. Rao R,-Reaching for the Cloud-India's Saas Journey-http://www.zdnet.com/in/reaching-for-the-cloud-indias-saas-journey-7000023820
4. Mohamed A.-A history of cloud computing-http://www.computerweekly.com/feature/A-history-of-cloud-computing.
5. From SCM World, Collaborative Execution Survey, 2012.