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# Supply Chain Omni Channel Model Networking and Its Optimization

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*Abstract: This paper highlights execution of supply chain management at omni channel level with major focus on dealing with the complexities, conflicts, risks involved during smooth flow of coordination link between factories, distributor, wholesaler and retailer covering entire supply chain cycle until it reaches customer. The basic importance is to balance selfishness and short-term gain in order to establish a proactive system which will match and provide high line benefits resulting from networking long-term business relationships. Efforts needed may look simple, but need lots quality inputs of proactive working of real omni channel fully operational in order to meet desired level of customer satisfaction by focusing on win-win solutions.*

**Index Terms**—Omni Channel, Risk factors in Supply Chain, Supply Optimization, Customer Experience, Network in Supply Chain, Modeling Supply chain.

## I. INTRODUCTION.

In 2003, that retailer were struggling than suddenly pounded by Walmart, and had sort of withdrawn into themselves at the time to figure out how to compete in technology market strategically. Companies were also seeing an interesting trend online. By 2003, the retail land grab for ecommerce real estate had already come and gone. And some retailers were starting to see online purchases that were growing beyond “maybe the equivalent of a large store.”

Many people think that omni-channel started in 2007, with the introduction of the iPhone. But actually, for retail, the iPhone introduction was a non-event. I mean, sure, retailers scrambled to figure out what it would mean for them, etc., etc., but in the end, in 2007, the net impact of the iPhone on shopping behavior was zero at the heart of omni-channel is customer centricity. Much of the current struggle to implement omni-channel initiatives comes from retailers trying to preserve their current product- and channel-centric business models. Retailers who find themselves in this predicament are not going to survive the transition to customer-centric. It’s happening with or without them, driven by consumers themselves and their choice of how they do shopping.

### A. UNDERSTANDING OMNI CHANNEL RETAIL

Multichannel retailing or Omni channel retailing is the use of a variety of channels in a customer's shopping experience including research before a purchase. Such channels include: retail stores, online stores, mobile stores, mobile app stores, telephone sales and any other method of transacting with a customer. Transacting includes browsing, buying, returning as well as pre-sale and after-sale service.

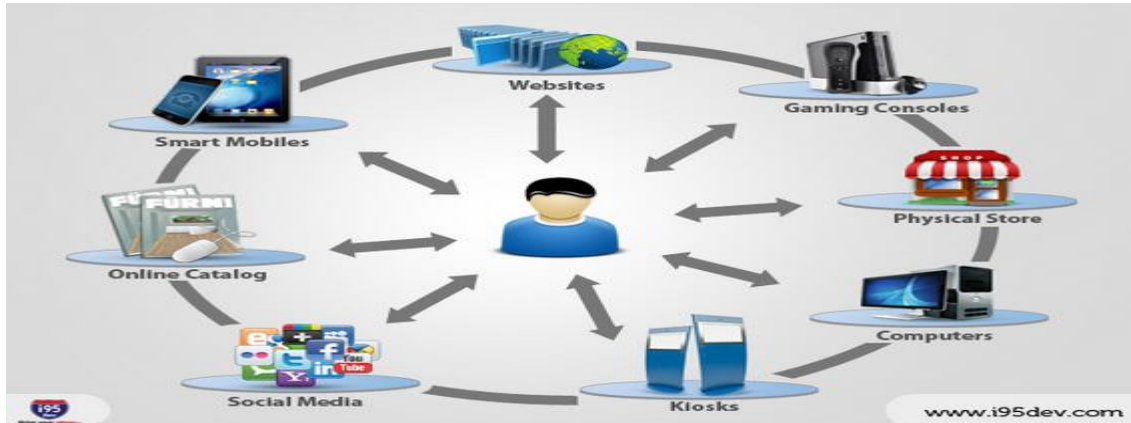
### B. WHY TO HAVE OMNI CHANNEL IN SUPPLY CHAIN

Retailers today are facing heavy competition, not only during selling, but also during retaining the same customer to resell their products. Digital demand drives omni-channel in the first place, and omni-channel as a product of digital demand, creates expectations in consumer to that extent that practically anything they imagine is deliverable. So they use omni channel retailing through all physical channels (offline) and digital channels (online) which offers a seamless, innovative and unified customer experience.

**C. DEFINE OMNI CHANNEL RETAIL**

Multichannel retailing or omni channel retailing is often said to be dictated by systems and processes, but in fact it is the customer that dictates the route they take during transact. Systems and processes within retail simply facilitate the customer journey to transact and be served, it is multiple channels a very complicated path to establish for successfully functionality with inbuilt flexibility to cater different customer through distribution centers.

**II. INTIAL STAGE OF OMNI CHANNEL ESTABLISHMENT**

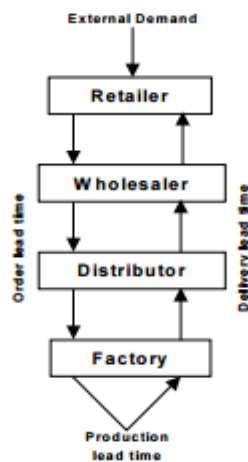


**Fig: 1 Consumer Access to Omni Channel of SCM**

Fig; 1 Supply chain integration joining internal company business segments and integrating with external companies.

Internal supply chain integration (Fig 2 ) is undertaken for joining otherwise separate activities such as purchasing, warehousing, transportation and distribution as well as customer service within a single enterprise. Presently companies are expanding systems outside the firm’s boundaries to identify higher value opportunities through collaborating with related supply chain partners, External integration, based on information sharing, helped building systems and coordination dimension among companies to improve performance

The study was conducted by Hau Lee at Stanford University and Andersen Consulting through a survey of 100 manufacturers and 100 retailers; it was found that companies engaged in higher levels of information sharing as specified in Fig: 2, with supply chain partners reported higher than average profits



Source: Simchi-Levi, 2000.

**Beer Game Supply Chain**

**Fig: 2**



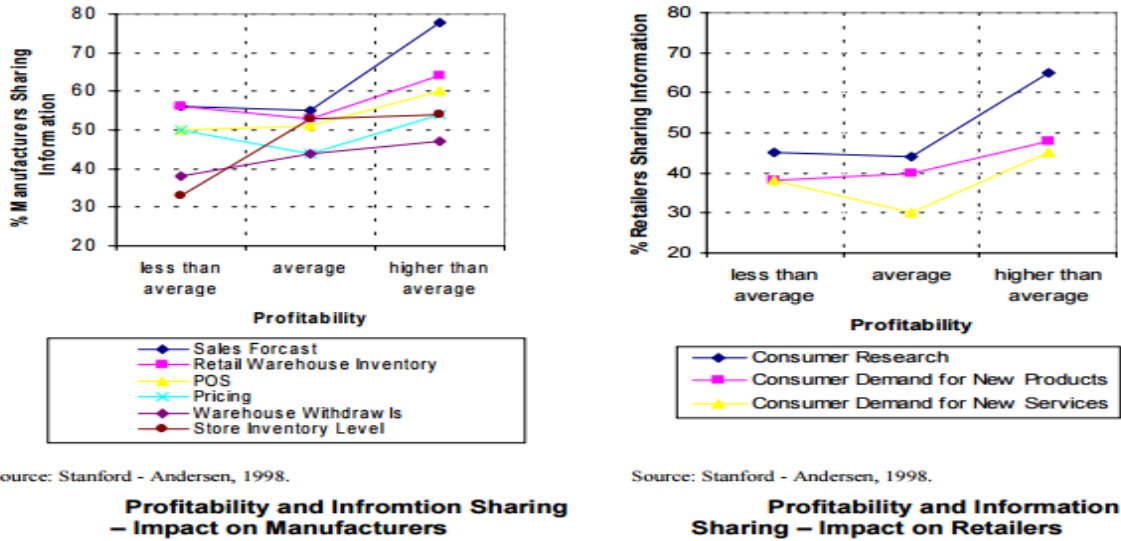
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III. RESULTS OF STUDY CONDUCTED



Source: Stanford - Andersen, 1998.

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Fig: 3 Impact of coordination on profitability

Study report ( Fig 3) will provide bright view to reflect that coordination will not only enhance forecasting capability, also enhance ability to provide better platform to meet customer demand and improve profitability. The inventory support to make this happen also do not increased due to synergy affect. The most important aspect is consumer demand to meet their need fulfillment fully customized to make them delighted.

IV. RISK MANAGEMENT IN SUPPLY CHAIN MANAGEMENT

Innumerable forces that influenced on supply chain management during its channel supply( Fig.4), as they needed to be handled meticulously with limited resources available for providing optimized quality services to global clients. The area of concern identified and their study was taken up covering supplies over 60-75 day transit positions by organizations on scale 1-10 to understand them thoroughly.

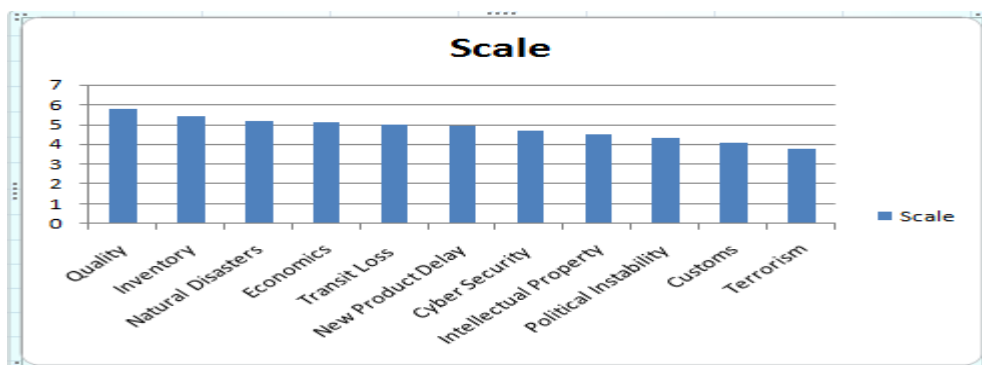


Fig: 4 Area of Concern for Risk Management

A. INVENTORY VISIBILITY IN PROCESS

Knowing the exact inventory status, either at distribution center or retail location, is vital in Omni channel logistics. This is taken care by developing an efficient order fulfillment process through the use of a fine-tuned Warehouse Management System (WMS) technology.



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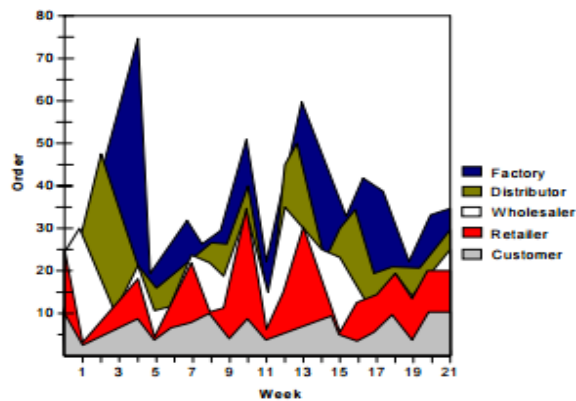
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Inventory also identified as second major area concern. The surveyed organization were holding more inventory and to the extent that they continue to supply, even when they suffer loss in one region to meet the client's requirements. The firms now slowly understanding that inventory increases their working capital, which depresses cash flow, which depresses shareholder value.

Other major social concerned like terrorism also affecting the supply chain management was seen in new light in countries and area, where this is under influenced Example: new custom law, new transport, new passages, new security measures..etc

### ***B. TRACKING PROCESSES AT 360 DEGREE***



Source: Simchi-Levi, 2000.

Fig: 5

**Order Variability in the Supply Chain**

The entire supply chain process is not established to perform it consistently (Fig 5), due to very reason that they are handled by different distribution centers attached to different outsourced centers to meet broad level of clients, even to the extent of providing individual customized solutions through associations.

The action taken to resolving this client satisfaction due to the supply chain segmentation is to consolidate these processes, rather than let them function in silos. Now with an opportunity to shift to RFID technology instead of age old barcode systems, due to very reason that RFID tags are less sensitive to soiling and minor damage. RFID also provides an ability to register hundreds of products simultaneously to monitor them reliably with no direct visual contact with a reader. With RFID, any losses and theft chances are reduces drastically as a result of electronic anti-theft and monitoring systems thus reducing any bottlenecks in queuing, inaccuracies in order fulfillment that affects product costs and overall profitability

### ***C. TIMELY DELIVERY TO CLIENTS***

Retailers promise to deliver the goods as promised to clients failed due to unreliable order fulfillment process, due to delays in shipping or products, finally led to dissatisfaction in clients for placing repeated orders.

### ***D. LOGISTICS MODERNIZATION***

The challenge is finding the most effective and efficient transportation solution to ensure that your customer is happy, and that you're not driving up the landed costs of your product.

### ***E. RETURN POLICY***

Consumer wants returning the product if they choose to do so if they are not satisfied due to some reason, either through simply visiting the closest retail store or dropping it back into the mail.



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V: EXTENDING SPAN OF SUPPLY CHAIN COLLOBORATION

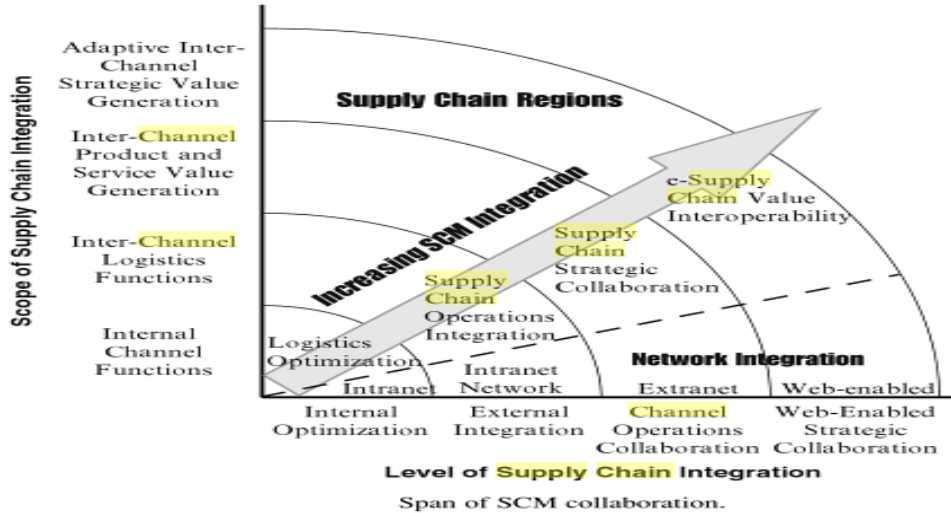


Fig: 6

**A. INTERNAL OPTIMIZATION**

Logistics optimization is foundation for extending the collaborations internally through focus on product movement, information movement, timely services, and integration with all stakeholders including customer, and monitoring cost in freight charges as well as utilization of warehouse space.

Education and training of people are crucial for executing plans successfully, due to very reason of labors education back ground. Automated integrated information systems to ensure that right information reaches right place at right time will help meet product delivery goals to customer satisfaction.

**B. EXTERNAL INTEGRATION**

Supply chain operations integration through intranet network for streamlining the logistic function through sharing order processing, available exact inventory and shipping status for intranet, keep track of customer credit for order processing and accounting/billing aspects with customer

The organization should digitalize its logistics operations procedures, regulations requirements and its organizational policies matching similar industrial standards. The extra efforts on data mining, decision support and execution reports availability to meet operations integration for its logistic functions.

**C. STRATEGIC COLLABORATIONS**

The channeling operation collaboration is crucial for ensuring both internal channel product and services value generation through supply chain strategic collaboration. The most effective way to address this issue in channel operation collaboration is through the architecting supply chain network having unified network for usage of collective resources, innovative capabilities for winning orders in market, and also providing best customer value across entire supply chain channels. Proper focus of effort on deploying social networks to identify customer, displaying its brand status with integrity for synergy and profits.

**D. WEB-ENABLED STRATEGIC COLLABORATIONS**

E-comm and order management systems are synced up in such a way that the online shopping cart order triggers a PO with the vendor directly, and fulfillment is carried out by outsourced or in-house parties within the retailers supply chain. The clients receives products through different channel established by means of outsource attached to distribution means , so customer satisfaction always goes for a toss during measure and assessment .



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## VI. APPROACH FOR STREAMLINING PROCESSES AT 360 DEGREE

### 1. ORGANIZATION THOSE ADOPTED OMNI CHANNEL SYSTEMS ARE OPTIMALLY

- Using inventory visibility as an accurate forecaster of future demand
- Planning their supply chain activities to meet demand
- Selecting the right shipping method for the right customer situation is imperative to Omni channel logistics
- An effort for streamlined order fulfillment process is employed proper use of technology to mitigate any forecast future delays in service or shipping.
- Implementing sound back tracking logistics infrastructure is imperative to good customer service within Omni channel logistics

In fact the retailers are able to sell orders online without even taking physical possession of the product.

## VII. CONCLUSION

Risk Factors assessing and addressing by firms to ensure continuity and resilience for the long-term, if they want to remain competitive. Omni-channel logistics is all about providing consumers with the most seamless shopping experience. But in order to achieved, retailer have to leverage their e-commerce capabilities can be effectively addressed by a 3PL with a diverse set of WMS capabilities and integration strategies.

This coordination at each level will not only ensure smooth operations, but also keep the resource availability optimized with best intention and goal to satisfy the customer,

This study can be extended to study more to make the companies harness more agile/flexibility with adoptability in their operations during handling customers demands with multifaceted strategies to match brands, location, requirements with customizations and post sales support at both personnel as well as online.

## ACKNOWLEDGEMENT

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He holds a Bachelors degree in Mechanical Engineering and Masters of Technology in Industrial engineering and management, Post Graduation Diploma in Operations Management; additionally certified as lead auditor for ISO 9001 QMS , Master Black Belt for Lean Six Sigma , Six Sigma- Lean Black Belt , Certified Quality Manager, Certified Supplied Chain Management. He was Ex Manager –TQM and Management Representative from Davangere cotton mills, Regional Manager for NQA-QSR also as Sr.Consultant for quality management for over 18 years of which 6 years visiting Saudi Arabia and Oman.

Presently working as CEO and Managing Director in SRH Management Consultants and Trainers –Hyderabad and professionally accumulated rich expertise in quality management system in manufacturing as well as the education sector like association with Sreenidhi





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He published more than 10 research paper on quality management, lean management, project management, productivity improvements, and supply chain. He recently got corporate leadership certified, and is holding lifetime fellowship membership with Management and Strategic Institute (USA),

## **2. Kartik Venkata Mutya**

He is currently in the final year of Bachelors of technology degree in the field of Mechanical Engineering in Sreenidhi Institute of Science and Technology (A respected autonomous institute under JNTU-Hyderabad). His vision is to use innovative approaches and technologies such as omni-channel networking, RFID, Cloud computing etc. to make supply chain more efficient and transform logistics.

## **3. Rudra Sandeep**

He is currently pursuing the final year of Bachelors of Technology degree in the field of Mechanical Engineering in Sreenidhi Institute of Science and Technology (A respected autonomous institute under JNTU-Hyderabad). He has a design patent approved by the Govt. of India for the design of a wheel. His vision is to improve supply chain models in India and make the processes more efficient and economical.

## **4. Laksh Agarwal**

He is currently in the final year of his undergraduate degree in Mechanical Engineering from Sreenidhi Institute of Science and Technology (A respected autonomous institute under JNTU-Hyderabad). He has attended various seminars and workshops on business development and his vision is to work on supply chain management and integrate omni-channel retail within it, in order to make the process of supply in various industries smoother and more efficient.

## **5. B. Rudvik Reddy**

He is currently in the final year of his undergraduate degree in Mechanical Engineering from Sreenidhi Institute of Science and Technology (A respected autonomous institute under JNTU-Hyderabad). His vision is to use supply chain in making organizations more flexible and improving inventory visibility.