

## **Innovative Supply Chain Management for Business Sustainability**

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Innovation is defined as a) something fresh (new, original, or improved) & b) that creates value. It could be a new idea that results into significant improvement in the process, cost, design, method, fixture, tools, equipment, machine, logistics, marketing etc. Innovative changes created value to the organization in terms of improvement in efficiency, saving of time, energy, material, efforts. These are sometimes incremental changes in the productivity, quality of the product, customer satisfaction. In some cases these are Strategic Changes that result in the major management functions like HR (Employee Hiring, Talent retention, enhancing employee satisfaction), Operations (efficiency in production), Logistics, Material, marketing, Finance etc. It also could be the innovative idea that achieved significant results in terms of cost, quality or customer satisfaction. There are more than 30 definitions of Innovation and in simple language it is Right Solution to the problem – the organization presently facing.

Supply Chain Management which came in existence as a part of an evolution process after Integrated Materials Management in 1998 at Ohio in US. This evolution from Functional Materials Management in 1950 changing to Integrated Materials Management during 1980 and then Supply Chain Management in 1998 is continuous innovating process in the Business Organizations for getting Success and sustaining Success. It is expected that next part of this evolution is Demand Chain Management expected by year 2020. Therefore one can say that Innovativeness is part of Supply Chain Management to steer through Problems and troubled waters to achieve Goal of the Companies. Here we cannot forget that Primary Goal of the Company is to Make Money.

Supply Chain Management has many Business Models; however, most popular and implemented across the world SCM Model is SCOR Model. The SCOR Model 2008 emphasizes on Important Processes of any Supply Chain Management viz. Plan, Source, Make, Deliver, Return & Enable. Supply Chain Management has made continuous innovations in all these important processes. Main focus of these innovations was, is and will be of operational excellence, Cost Effectiveness, Value Additions & Customer Satisfaction. All these Innovations overcome problems, constraints time to time and sustained SCM through many Recessions, Economic Slow Downs to keep respective organizations as going concerns. Review of some of these Innovations till now and recent time will be interesting to give strength to support Innovations for SCM Processes in future.

Planning is a one Important Process of Supply Chain Management, which includes Production Planning Control (PPC), Raw Material Planning, Tool Planning, Shop Floor Planning, Capacity Planning etc. Planning works more than these areas like Purchase Planning, Vendor Development Planning, Supplier Lead Time reduction Planning, Customer Order Handling Planning, Receipt Planning, Delivery Planning, Return Planning and at HR Department Human Resources Planning. In all

above Production Planning & Control is basic planning on which many other Planning Activities are depending.

We have always seen that Demand-Supply is always affected by Forecast Variance due to Demand Variability from Customers and Supply Problems due to Supplier Delays. Here many Managers think that Forecast has to be correct and wrong forecast is common reason for such problems. But how many Managers really know that Forecast is never, never 100% correct since Forecast is a Mathematical Exercise and not fortune telling. Forecast correctness depends on many factors including Forecasting Frequency. For long time we have faced such problems creating kayos where PPC is helpless. **At the start of this Century we had one major Innovation called 'Sales & Operations Planning (S&OP)'** which was based on Volume Planning followed by Product Mix Planning and Team Approach with all concerned functions like Marketing, Sales, Manufacturing, Purchase, Stores, Logistics and PPC with once or twice Team Meeting in first half of every month reviewing last month performance and demands of next month including current month to finalize commonly accepted solutions. Many organizations who have implemented S&OP have confirmed improvements and reduction of kayos in Company.

We can consider after Planning another Important Process called Sourcing for Innovations. Here let us also understand Sourcing includes Purchasing and Stores Management. Here in Purchase Management we adopted Just in Time II or JIT-II which is lean management tool well known as Vendor Managed Inventory (VMI). **We can call JIT-II or VMI as Innovation since JIT was prominently for Manufacturing or Line Production and was useful for Direct Materials like Components, Sub-Assemblies etc whereas VMI is for Direct Materials as well as Indirect Materials like Consumables, Spare Parts etc.** VMI is also known as Supplier Managed Inventory and in some European Companies 'Supplier Delivery Process Concept' which was prominently implemented in late 90's.

In all Companies Purchase and Accounts/Finance Departments have a special relationship! Supplier Payment is always a common issue on which both these Departments have extremely different views. Purchase Department wants Suppliers to be paid by agreed Credit Term e.g. on 60'th Day if Credit Term is 60 Days whereas Accounts has their own ideas. This common problem can be solved only by Job Rotation between Purchase and Accounts Managers. In this complex lifetime scenario we had **Innovation of Online Payment**. Now payment can reach supplier as per Credit Term, further it reduces NON-Value Added or Waste activities like preparing Cheques, Signing Cheques, Post/Courier cost and follow-up of Suppliers and Byers. IT Support to our Company and Improvements in Bank Processes due to availability of Improved Technology is also responsible in this case. However, still many Companies are not changing to Online Payments due mindset problems in their organizations.

In Stores Department also many new processes have been introduced like Bar Coding, RFID to reduce Stores Process Time,

Now let us look in to main value adding department i.e. Manufacturing. In 1950 Toyota Production System emerged as revolutionary concept and Lean Manufacturing based on Toyota Production System Concepts for localizing of TPS Concept got implemented. Today Toyota is working in more than 29 countries and following TPS Principles successfully 'Reducing Waste out of system'. Today in our India there many success stories of Lean Manufacturing & Lean Management from MSME to Large Scale Industries with reduction of Set-up Time, Reduction of Inventory, Reduction of Supplier Lead Time, Throughput Time, Customer Order Handling Time etc. I am not calling Lean Manufacturing as Innovation since Lean Manufacturing / Management is a Culture to be adopted.

Lean Manufacturing is well supported by Maintenance Department since there are lot of changes in working processes. Earlier, before 1950 there was only 'Break Down Maintenance' whereas after 1950's there are many new maintenance practices were developed e.g. Preventive Maintenance, Predictive Maintenance, Time based Maintenance, Corrective Maintenance and the Great Innovation 'Total Productive Maintenance (TPM)' which is also started from one Toyota Company 'Nippon Denso' in 1961 in Japan. **TPM gave Innovative way of Autonomus Maintenance or Jishu Hozen i.e. Operators to carry out Routine Maintenance.** TPM also gave another Kaizen i.e. Kobetsu Kaizen different than Gemba Kaizen of TPS. **TPM has one Pillar for Machine Building which is yet another Innovation.** It is observed that Companies making their own Machines as per their Research & Development are never losers but are worldwide leaders of their Industry e.g. SKF Bearings. TPM require Maintenance to build New Machines for their Companies with More Process Capability (Cp, CPk), More Accuracy required for their Products & Processes.

Let us now review Delivery Process in SCM. Delivery Process includes Logistics Management. Logistics had for long time In-Bound Logistics for Material received from Suppliers and Out-Bound Logistics for Finished Goods, Components & Spare Parts which are despatched from our Fished Goods Stores to respective Customers. In year 2003 it was observed that 'Return' is another Important Process included in Supply Chain Management and SCOR Model included Return as Important Process in their model. Return is not only Rejections but it includes Material returned by Customers from their Receiving Stores due to their Change of Plan or otherwise, without in warding that Material in their company. **To satisfy this New Customer Requirement of 'Return' Logistic Management developed / implemented a New Process called 'Reverse Logistic' which is an Innovation.** Recently we have seen practical implementation of 'Return' by Amazon.Com in online Purchases. Unfortunately our Indian Shop Keepers including Grocery Shops, Dress Material Shops, and Book Shops etc never followed these Best Practices of World Class SCM and you will observe slowly these Shop Keepers are going out of Business since they have not accepted the fact 'Return is Birth Right of Customers'. Off course this is not going to stop here and will reach to all other Industries.

Logistics includes Warehousing and Transportation. In Warehousing Major Operation Cost is due to Picking Operations. To reduce/control these Costs many

New Innovative Techniques are being successfully implemented. **'Pick to Voice' and Pick to Light' are these Innovations in Warehousing Practices.** We have already started following **Milk Run, which is an Innovation** and which was brought to our Country by Amul in Dairy Business and in Engineering Industries by Tata Motors. Transportation is yet another wing of Logistics and we can see lot of Innovative Practices in Transportation. **Cross Dock Warehousing is another Innovation** in this direction. Based on 'Crossing of Trucks' which is technically known as Trans-shipment but popularly known in India as 'Crossing' was the base of this new solution. Today we are enjoying Cost Reduction in Transportation due to successfully implementation of Cross Docking Warehouses. Tracking of Trucks was a Nightmare for Purchase Department while answering their Internal Customers like Manufacturing in cases of supply delays, which are not under their control. **One Innovation was 'Advanced Shipment Notice'** and it also worked to some extent. But after committing Receipt Date based on ASN, it was not guaranteed that actual Goods or Vehicle will reach as committed due to practical problems on Road. Now with **Vehicle Tracking System, which is also an Innovation**, this Problem is reduced to a greater extent. In India Transportation Industry is very much fragmented and Improvement in Transport Industry is Purchase Management's dire need. Some companies have implemented **'Transporter Performance Index'** and got benefits of Transporter's Improvement actions.

We can see from above review that Problems were, are and will be there in Supply Chain Management. One has to learn to think, innovate practical & cost effective solutions as a part of our Supply Chain Life or Carrier. If innovate, sustenance will not be difficult. Technologies will be changing and solutions will be also different.