

Responsive Shop floor for Lean Supply Chain with SAP

INTRODUCTION:

Technology is evolving at its fastest pace, as are the user expectations in terms of products and services. With clients expecting more every day from the supplier to respond in the shortest possible time, overall supply chain needs to be extremely agile. Traditional supply chain is very compartmentalized with different departments managing parts of the supply chain of any organization. Due to different departments, the supply chain typically has different barriers or walls, which would slow down the communication and product flow process. Today, competition is so strong that only marketing, good sales, and branding of the products are not good enough to be successful in this competitive world. For strong sales and marketing, companies need an equally flexible supply chain which is the backbone of any organization.

SUPPLY CHAIN FOR MANUFACTURING COMPANIES:

Manufacturing companies face the challenge of a double-edged sword. Competition drives sales and marketing to be on their toes; always looking for new ways and innovative ideas to attract business and consumers. This further challenges the supply chain to respond to these innovative ideas and ever increasing demands of customers while having more pressure from the management to optimize the cost every year. Gone are the days when shop floors for manufacturing industries would be rigid with the idea of keeping the shop floor layout and design the same for many years with the expectations that the same product will be manufactured or assembled in the floor for years without much change.

Imagine any automotive industry. In the 1970s and 80s, car models underwent major changes once every few years. Today, competition has driven car manufacturers to come up with drastically new designs every year for each car model they make. Design teams in the automobile industry work around the clock to keep up with demand and competition. Shop floors cannot have a rigid layout thinking that the same kind of car will be manufactured there for the next five years.

Continuous improvement is not just a buzz word anymore, but something companies are forced to build that in their core culture. Continuous improvement on the shop floor has necessitated robust system solution to support shop floor operations while keeping them integrated across other supply chain functions. To achieve the shop floor flexibility, Manufacturing Execution Systems – MES has become a vital tool.

SAP FOR RESPONSIVE SHOP FLOOR:

With SAP, your complete supply chain – including the shop floor – can be streamlined. Whether it is a single plant or multiple plants, the manufacturing process from design to delivery can be seamless while maintaining high performance and an efficient shop floor.

SAP SOLUTIONS:

Every changing customer demand can be synched up with design and internal production operations in SAP. This streamlines the process from Demand Planning, to Supply Planning, to Capacity Planning to Shop Floor Execution.

Using efficient MES solutions of SAP, product and activities can be tracked and monitored across shop floor as well as real time manufacturing information is available to staff and management.

Whether the shop floor is an engineering workshop, automobile manufacturing, chemical factory or pharmaceutical – regulated environment, SAP and MES solutions can make the shop floor process very streamlined, transparent, and efficient.

Product development is a critical and integrated part of the supply chain. For any manufacturing facility, environmental health and safety measures have never been so important. These demands of any industry can be easily met by SAP using SAP PLM (Product Life Cycle Management) and EHS (Environmental Health and Safety) product suites.

SAP shop floor control and MES modules can be seamlessly integrated with the above modules as well as with Human Resources, Warehouse Management, Delivery Processing, and the engineering department (Engineering Changes).



HOW TO ACHIEVE THE GOAL:

There are some critical aspects that need to be considered when laying out the plan to achieve the goal of a responsive shop floor using SAP.

Demand and Operations Planning (DOP): Traditionally, Sales & Operations Planning (SOP) and Operations Management have been 2 separate departments with a different set of people within an organization working in these areas. I would suggest a single team to manage these areas, and call the team ‘Demand & Operations Planning (DOP)’. The DOP team can have daily huddle meetings to align demand and operations to ensure that the complete supply chain is lean and responsive.

DOP in SAP: SAP is a very flexible tool when it comes to supply chain planning. One needs to be careful in selecting relevant options within SAP. Just because industry is Chemical or Pharmaceutical does not mean SAP PP-PI (PP for process industry) module has to be selected as an option. SAP also provides a different setup for Engineer-to-Order, Make-to-Order, Assemble-to-Order, Configure-to-Order, and other types of products. Making the correct choices of tools to configure within SAP is part of the core foundation. The success of SAP implementation and achieving the goal of responsive shop floor depends on accuracy of these choices made. One needs to review the shop floor process for each plant (in the case of multiple plants) and select the proper tools within SAP for each plant, and not lose the flexibility of Supply chain by selecting one option within SAP for all the plants.

Change Management: A lean supply chain will mean a quick response to any changing demands of the product. Product Life Cycle Management (PLM) is very important to keep the supply chain and shop floor responsive to changing demands. Managing continuous changes without impacting the quality of the product or breaking down the Supply Chain is critical to achieve that goal. SAP's PLM and Engineering Change Management (ECM) are very effective tools to build an effective supply chain.

Shop Floor Execution: SAP has robust tools in the form of repetitive manufacturing, Production orders or Process orders for shop floor execution. Shop floor and all the works in process (WIP) can be made very transparent using the SAP ME (Manufacturing Execution) tool. SAP ME is seamlessly integrated with the core components of SAP using SAP MII (Manufacturing Integration and Intelligence).

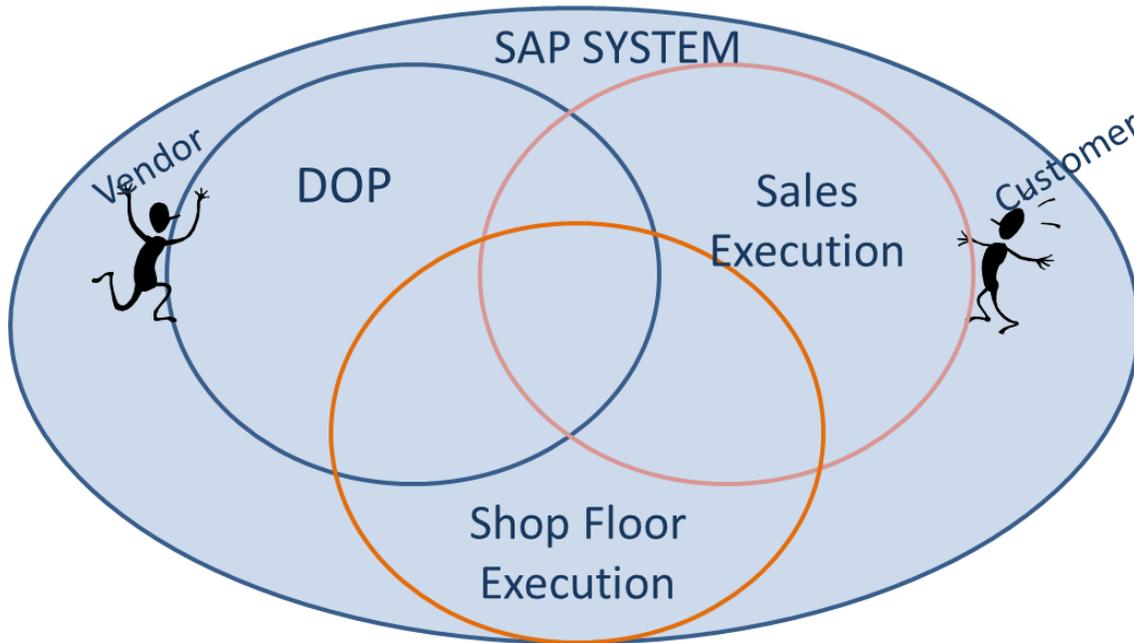
Sales Execution: Traditionally, the sales team would not have much interaction with the logistics team, which is responsible for ensuring that customers receive the products they ordered at the right place at the right time. With so much value given to customer satisfaction, the sales and Logistics Execution teams need to work in synergy to ensure timely and accurate responses to customer demands, which are moving targets. We can call this new team Sales Execution, which works closely with customers starting from sales generation to product delivery.

Communication: Typically, the shop floor would work in its own silo, making shop floor very rigid and unresponsive. To break this silo, SAP has very effective tools in the form of Message Board and Production Operator Dashboard (POD). Messages can be run as Real-Time message display (RTMD), making complete shop floor very responsive. POD provides a user-friendly interface to interact with SAP. POD can be used for real time processing of the product that is being manufactured on the shop floor.

Effective Consulting: Consulting for an SAP project is not simply about configuring SAP. A good consultant not only understands SAP configuration, but also quickly realizes the business processes of manufacturing organizations which plan to use SAP for a lean supply chain. He or she can identify silos that have been built over the period of time within supply chain, making manufacturing organization difficult to be responsive to demand. SAP implementation, upgrade or re-engineering project is not only about SAP configuration, but about driving process changes to achieve the goal of responsive shop floor for Lean Supply chain. Quantum Integrators'

consultants have successfully implemented SAP for many customers to eliminate silos and to be very lean and responsive.

Lean Supply Chain using SAP



CONCLUSION:

Many manufacturing organizations have seen tremendous benefits of using SAP to achieve a truly integrated supply chain with a very responsive shop floor management. The benefits are far beyond direct cost savings in material and labor cost. Even a shop floor operator operating any work center is able to see bigger picture of supply chain and his or her role in making shop floor effective, which builds sense of ownership across supply chain.

ABOUT THE AUTHOR:

Naren Godse is platinum level SAP consultant with over 16 years of consulting experience in the area of Supply Chain Management. He has been solution architect for many successful project implementations where customers achieve great value from SAP implementation. Naren Godse is President at Quantum Integrators and he is in charge of Supply Chain practice.

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