Leveraging SAP for Outsourcing and Collaboration Scenarios in High-Tech Industry

Applies to:
Business Process Transition from in-house manufacturing to contract manufacturing in High-Tech Industries. SAP ECC and SNC systems. This document is applicable to Business Process Experts Community and High-Tech Industry Vertical.

For more information, visit the Supply Chain Management homepage.

Summary
This article details out the business requirements and challenges of High-tech Industry. This document covers the solution approach to be adopted for a smooth and successful transformation to out source the manufacturing activities using SAP application in order to sustain and succeed in the highly competitive market situation.

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Author Bio
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High-Tech Industry: Business challenges

- Hi-Tech Industries need to develop new products faster as these products have very short product life cycles and fast product obsolescence.
- High-tech manufacturers must be innovative and it should be a continuous process to sustain in the global competition.
- High-tech manufacturers often change their company strategies and operating models in order to accommodate the nature of competition.
- Need to device different cost cutting models
- High-tech manufacturers need to touch base with suppliers and partners to forecast demand and deliver the products without delay which needs more visibility in whole supply chain process.
- High-tech manufacturers deal with highly complex BOM structure with complex business rules.
- Shorter lead time to procure the components is another challenge to deliver the products to the customers on time.
- Business needs to be more flexible to manage different manufacturing strategies like Build to Forecast, Build to Order, Assemble to order and configure to Order etc.,
- Introduction of Industry standards like XML, Rosetta Net etc.,
- To keep up the customer reputation consistently.
Why outsourcing?

- Due to global competitive situation, all the challenges can’t be handled by the High Tech manufacturers and need to look for alternate methods to drive down the cost.

- It is necessary for the high-tech manufacturers to spend more time and efforts on core competencies such as product design and Innovation and outsource other non-core processes like manufacturing and distribution etc to cut down the cost.

- Outsourcing facilitates companies to optimize forecasting, order processing, manufacturing and distribution collaboratively with suppliers and service providers and to achieve the following objectives:
  - Revenue growth
  - Manufacturing Cost Reduction
  - Working Capital Reduction
  - Fixed Capital Reduction

The above diagram from the source shows that reducing operating costs takes the priority over other factors to be considered. This could be achieved only by Outsourcing the manufacturing process.

Outsourcing Strategy and Methodology

- The first and foremost point is to find the right outsourcing partner who has the operational capabilities coupled with IT enablement. This is the strategic decision which is the key influencing factor for a successful outsourcing model.
- Prepare a product wise and phase wise plan to enable smooth transition from in house manufacturing to outsourcing scenario.
- Continuous Training of business and IT users is part of the success for a smooth transition.

How SAP can leverage for a smooth and successful outsourcing?

Let us consider an outsourcing scenario for a semiconductor or electronics tools/appliances manufacturing enterprise. It may not be easily possible with any ERP systems to meet the above critical business and IT challenges of High-tech Industry but this can be easily and efficiently managed using SAP system with the power of SAP PI (Process Integration) for data transfer between SAP and contract manufacturer’s system.

Transition Plan

Transition should be handled with an exhaustive planning by anticipating potential risks associated and prepare a mitigation plan to tackle the risks. Also Business needs to prepare a phase wise schedule for a transition for each product group in order to reduce the risk.

Supporting Dual Manufacturing Scenario

The best practice is to begin with dual manufacturing (both internal manufacturing and outsourcing). This helps the business to make sure that customer orders are fulfilled on time till contract manufacturer is ready to take over completely with required capabilities in production, testing, delivery and direct shipment etc., SAP has the flexibility and agility to adopt this change very easily with some changes as described below:

Material master: To select material master attributes suitable for dual manufacturing. The key parameters are procurement type (X), MRP type (PD), storage location EP, loading group and item category etc.,

Config changes: To choose the required schedule line category manually during the interim period which triggers a planned order and purchase requisition depends on the selection of schedule line category.

Purchase info records: Business needs to get a quote and maintain appropriate type of purchase info records as per the process like standard, subcontracting and consignment etc.,

Idoc field mapping and XI interface setting: The BOM gets exploded when the pur.req is converted into a purchase order and there may be some developments involved to send the BOM till particular level as contract manufacturer may not need to have visibility of all the BOM levels. SAP XI is interfaced with contract manufacturer’s system through a middleware application. This enables the transfer of purchase orders; PO commits (ack from Contract manufacturer), Advance shipping notification (ASN), Invoices etc between both the systems in the form of idocs.
Transition to Outsourcing from Manufacturing

Once the contract manufacturer attains the self sufficiency in terms of technology, Engineering, collaboration and logistics capabilities, SAP system can be changed easily for outsourcing requirements.

**Material master:** To select material master attributes suitable for external procurement (contract manufacturing). The key parameters are procurement type (F), MRP type (X!), storage location EP, loading group and item category etc., Also there may be a change in some material type changes from non-valuated material type (UNBW) to semi-finished and finished products to accommodate the change in the costing design.

**BOM Changes:** After shifting to 100% outsourcing, there may be minor changes in the BOM structure and parameters like phantom indicator, production relevancy indicator and costing relevancy indicator etc.,

**Variant configurator:** SAP’s proven variant configuration component which can handle complex BOM and dependency rules in Sales, production and purchasing functionalities which facilitates the transition very easily with out any custom developments.

**Config changes:** To get suitable schedule line category automatically while entering a sales order which triggers only purchase requisition

**Commit process:** Once the purchase order is sent to the contract manufacturer it needs to be acknowledged with best possible delivery date. This information is exchanged as an incoming idocs. Here some developments may be necessary to update the PO date based on the commit date which in turn updates Sales order material availability date. Also SAP system can easily accommodate sales order changes dynamically changing business requirements.

**Costing challenges:** As mentioned above, once you start creating purchase orders the entire costing needs a change depending upon your BOM structures which SAP very well accommodates. You can have purchase info records (PIR’s) for any level of BOM components which can be added at the time of PO creation to give you the final buying price from contract manufacturer.
SAP Supplier Network Collaboration (SNC) Application

Business also can use SAP SNC (Supplier network Collaboration) for the outsourcing process. The following are the business scenarios that are more relevant for High-tech Industries. With the use of SNC system, efforts in developing XI interface will be minimized to a greater extent as SNC acts as a ready made system suitable for this process and business can get the status of the PO and ASN details etc., in a dashboard form.

- Supplier Managed Inventory
- Supply Network Inventory
- Work Order Collaboration
- Kanban

Related Content


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