Optimizing supply chain management

The use of information management to help optimize supply chain management process at an A&D company

Aerospace and Defense (A&D) companies have complex supply management processes that require timely information for supplier selections, supplier management, inventory management, production and outsourcing decisions, etc. The use of Enterprise Information Management (EIM) can help A&D companies in their efforts to improve their supply chain management process and better position them to make preemptive decisions based on quantitative and qualitative data analyses.

This A&D company faced complex business and technology challenges due to the lack of integrated data from the disparate systems (ERP finance systems, material resource planning systems used for inventory management (nonvendor systems), systems managing outsourced parts manufactured parts routing system (nonvendor system), ERP Procurement systems, etc.) used for supply chain management. The existing manual processes used to pool and analyze data from these various systems lead to an inability to proactively respond in a timely manner to challenges in inventory management, quality management and supplier reliability. In addition, the reporting environment did not have the capability to slice and dice data to analyze the problems. The company decided to use EIM to help them achieve greater transparency of information and better confidence in data and enable them to utilize the reporting environment more effectively and conduct business more intelligently.

What PROBLEM did the client face?

This A&D company wanted to leverage the data collected in multiple systems to help them manage the supply chain process more effectively. The company also wanted to utilize the reporting capability to help them more efficiently manage inventory, analyze supplier performance, track supplier quality notifications and their corrective actions, and proactively make outsourcing decisions. Existing reports were developed within their functional areas or were specific to applications and followed no common processes or standards, which promoted data redundancy and data integrity issues. Some of the major challenges the company was facing were:

- **Total value of acquisition parts analysis.** Supplier evaluation through analysis of total value of acquisition of parts had several technical and functional limitations largely caused due to lack of availability of integrated data from disparate systems.
- **Supplier Tracking And Rating Systems (STARS).** The company's Supply Management used the STARS system to evaluate and rate supplier performance. The process used to calculate and load various supplier ratings from multiple systems was extremely time consuming and involved manual operations.
- **Package sourcing decisions.** Determining whether the manufacturing of assemblies/components could be outsourced and identifying which ones to outsource using finance and supply chain cross-functional analysis was not feasible due to lack of timely information.
- **Analyzing inventory needs and cost management.** Without an integrated view of receiving data, procurement, and production, inventory management and cost control was a challenge.
- **Tracking quality notifications and supplier Corrective Actions.** Managing suppliers by tracking quality, notifications, and corrective actions by suppliers was challenging due to lack of consistent data.
- **Root-cause analysis of variance in goal deployment plan.** Evaluating the root cause of any variance between plan and actual for the Goal Deployment Plan (GDP) initiative was extremely complex due to the lack of integrated data from disparate systems without common master data. Reconciliation of data was a major challenge resulting in delays in making business decisions and misinformed business decisions.

What did the SOLUTION look like?

The company is using EIM to provide a wide variety of solutions they can leverage to meet their specific needs. Some of the high impact areas are as follows:

- **Business need-focused enterprise data warehouse.** The fully integrated data warehouse helps consolidate data from disparate systems and provide a single version of the truth. The data warehouse was built focusing on current and future business needs. By having access to critical data through various integrated reports in a timely manner the company has the ability to manage supply chain process more effectively.

- **Production/Procurement/Receiving.** Support the Supplier Relationship Management and Vendor-Managed Inventory (VMI) functions of the business by providing integrated data facilitates quicker decisions and enables suppliers and inventory movement within the supply chain process to help the purchasing group to better manage price variance.
- **TVA/STARS/Quality/Notification.** Facilitate supplier evaluations using underlying data for thorough analysis of total value of acquisition of parts and supplier ratings based on cost, quality, reliability and schedule, quality management, and quality notifications.
- **GDP Reporting.** Facilitate ability to conduct root-cause analysis for variance of key GDPs using reports at the aggregate and detailed level and supporting data readily available in the warehouse. Dashboards showing plan versus actual comparisons and alerts on variances in GDP metrics. Support analysis of suppliers in aggregate to their respective quality and long-term agreements.
- **Near real-time reporting capability to support Package sourcing decisions.** Help determine which assemblies/components of manufacturing can be outsourced to reduce total spend/improve quality yields. Integrated data from multiple systems to help identify tools, suppliers, and/or subcomponents that would be affected by a decision to outsource. Outsourcing decisions can be more effectively made by using aggregate and detailed reports to evaluate capacity issues, cost issues, and conflicts in people, machines, and capability.
- **Performance Based Logistics Management (PBLM).** Enable basic PBLM by collecting and reporting data that supports a better understanding of spare part demand and the associated demands placed on the production side of the business (i.e., how many spare landing gears should be produced). Provide a reliable view of customer lead times and warehouse efficiency of spares and an impact analysis to company service centers as well as supply chain partner service centers
- **Ad hoc reporting capability.** Facilitate ad hoc reporting through subject area specific online analytical processing (OLAP) cubes using integrated supply chain management data from multiple source systems. As an example, aftermarket parts and service data is fully integrated from the legacy system into the data warehouse. This enables the users to create their own reports based on the "one version of the truth" concept.

What were the RESULTS?

By implementing EIM, the company now has the ability to access integrated data in a more timely manner to analyze business performance enabling the ability to make quick business decisions. The company expects to now spend less time gathering, crunching, and verifying data and more time analyzing information in order to drive business decisions. Some of the key supply chain management benefits they achieved are:

- Better coordination between various supply chain groups both within and outside the organization to achieve efficiency in the process
- Easier tracking and timely monitoring of supplier performance through improved STARS ratings process
- Improved supply chain efficiency through visibility to key metrics such as on hand quantity, inventory days, parts per million parts rejects, etc.
- Better support pricing decisions through visibility to more comprehensive data such as material price variance, discounts received on parts, etc.
- Ability to more easily analyze components to be outsourced using accurate and timely package sourcing reports

Contact information

Nimitt R. Desai
Principal
Deloitte Consulting LLP
Denver
+1 720 938 6360
nimdesai@deloitte.com

Anu Jain
Senior Manager
Deloitte Consulting LLP
Atlanta
+1 404 631 2870
anujain@deloitte.com

Submitted by

Satish Gadiraju
Manager
Deloitte Consulting LLP
Chicago-South Wacker
+1 312 486 5719
sgadiraju@deloitte.com

Ravi Balike
Senior Consultant
Deloitte Consulting LLP
Pittsburgh
+1 412 402 5246
rbalike@deloitte.com