Making the Case for a New Product Introduction Portal

LiveSource

As manufacturers strive to grow market share and revenue, defend their positions in existing markets, and improve customer experiences, they face myriad threats that impact their time-to-market, costs, and performance quality. In particular, organizational silos complicate collaboration with an increasingly complex supplier network and contribute to delays in New Product Introductions (NPIs).

While outsourcing offers many benefits, suppliers also expose manufacturers to extreme risks that result in lower margins, millions in lost revenue, and potential damage to their brand and reputation. By leveraging a New Product Introduction (NPI) portal designed to address the complex requirements of the manufacturing industry, transparency and communication are dramatically improved, mitigating those potential risks and positively transforming the NPI process.

Supplier Master: A Single Source of the Truth

It sounds simple enough: maintain a single global database for all suppliers and associated information. Yet, manufacturers often struggle maintaining supplier master data. Many global manufacturers have grown through acquisition; each organization comes with its legacy systems, supplier numbering and naming conventions, and procedures. For example, one business unit may have blacklisted a supplier with no process in place, other than by word of mouth, to share this with other business units. As the volume of data produced in a modern manufacturing operation rapidly grows, it is difficult to reign in disparate and non-standardized information.

While ERPs seem like a logical place to manage supplier data, there are challenges. First, ERP systems track only minimal supplier data, mostly financial information. It is not unusual for a manufacturer to track over 400 data points for each direct material supplier, including certificates, regulatory compliances, OEM audits, financial, quality, and on-time delivery information. Only a dozen of these data elements can be stored in the ERP.

The second challenge is that ERPs are primarily internal solutions, typically lacking easy-to-use external portals for the collection and maintenance of supplier information. Most, if not all, of this critical supplier data must be updated on a monthly or annual basis. A manufacturer with 1,000 direct material suppliers often maintains 400,000 data points across the supply base.

▷ WHAT'S THE RISK?
- Incomplete and inaccurate supplier data.

▷ WHAT'S THE COST TO THE BUSINESS?
- Lower margins due to expedited costs associated with sourcing from a different supplier at the last minute.
- Fines from the OEM for shutting down their product line.
- Loss revenue associated to the product shut down.
- The lost opportunity to bid on future work because of poor performance on current projects.

Item Master: Managing a Single Information Set
Throughout the New Product Introduction

Like supplier master data, it is critical to have a single source of the truth for the BOM and the multitude of items it contains. Engineering owns the BOM and item library, and typically manages them through a product lifecycle management (PLM) system. Unfortunately, downstream departments such as Purchasing and Quality generally do not have access to the PLM. To make matters worse, manufacturers may use different PLMs across different business units.

▷ WHAT'S THE RISK?
  • Items could exist in different business unit systems with no way to identify them as the same item.
  • Not being able to identify the various locations and uses of an item during a product recall.

▷ WHAT'S THE COST TO THE BUSINESS?
  • Business units not coordinating items and paying different prices for the same part.
  • Extended damages by not fully managing product recalls.

The New Product Introduction Process

Pre-Launch & Launch Phases: Managing Continuous
Change Between Engineering, Purchasing and Quality

The pre-production process begins with establishing the requirements for a new product. Engineering provides an initial BOM associated with the product, which is submitted to Purchasing for cost estimates. At this phase, Purchasing relies on historical cost data from similar products to develop high-level cost estimates. In later phases, the manufacturer's suppliers provide competitive quotes through RFQs to confirm final cost estimates.
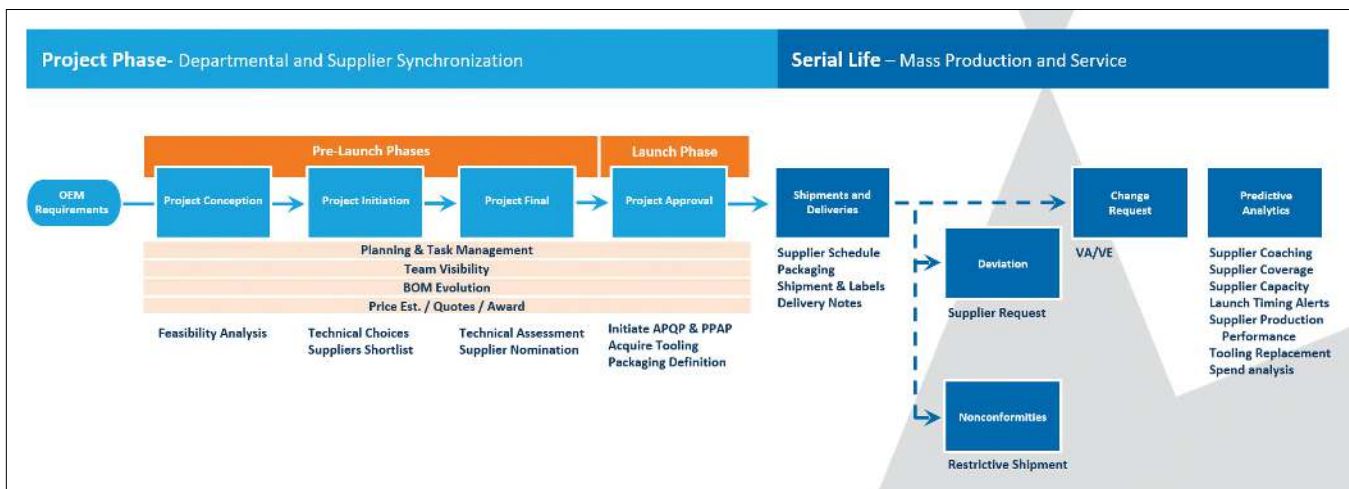
Engineering, Purchasing, and Quality departments participate at several points across multiple areas of the new product launch process.

Once the manufacturer is awarded the business by the OEM, the process enters the launch phase. The Purchasing team confirms the best and final price from selected suppliers, nominating each supplier for approval by other departments. Upon approval, suppliers are awarded the business and Purchasing records the original purchase order price.

Over the next one to two years, Purchasing, Quality, and Engineering prepare for production. The Quality team initiates an APQP/PPAP for each part, by supplier location. It is important to continuously track the supplier's quality approval progress to ensure the completion date aligns with the start of production date.

Engineering continues to refine the BOM based on internal requirements or feedback from the OEM. This not only impacts the PPAP, but could require modifications to tooling that may have already been built. Communication between Engineering, Purchasing, Quality, and suppliers is critical during the launch phase. Purchasing needs to track BOM changes and the impact on the program's original cost. The cost will "walk"—changing from the original proposed cost to an updated cost at the start of production—so Purchasing must be able to identify the party responsible for price changes to ensure margins are maintained.

▷ WHAT'S THE RISK?
- Missed changes in the BOM, resulting in incorrectly made items.
- Missing the target production launch date due to difficulties in communication between departments.

▷ WHAT'S THE COST TO THE BUSINESS?
- Expedited costs given missed launch dates.
- Paying for increased costs due to continuous changes in the BOM.

Production: Managing Quality Processes

The production phase ushers in a different set of challenges: a manufacturer sends purchase orders and updates supplier schedules via email to smaller suppliers who do not support EDI, and the supplier manually enters the order into their system, creates packaging, and prints shipping labels to the manufacturer's specifications. This manual process is more difficult for suppliers and leaves the manufacturer with no visibility into a supplier's status in filling the order. Further, it can result in data errors, leading to unexpected supply chain disruption with little or no warning to the manufacturer.

The manufacturer's quality engineers inspect parts received from suppliers; many have teams of quality engineers responsible for working with troubled suppliers, as it is important for the manufacturer to identify suppliers that are having difficulties delivering parts on-time or with poor quality. The sooner the quality team identifies a supplier in trouble, the better chance of avoiding a supply chain disruption and higher costs, as needed parts may need to be sourced through alternative suppliers while the original supplier issues are resolved.

Most organizations only recognize this impact through high-level KPIs such as on-time delivery. In many cases, lower than anticipated on-time delivery performance also indicates other negative trends, such as high expedited costs, insufficient inventory in some locations or excess inventory in other locations. Most manufacturers lack a system and data that can drill into the root causes of low KPIs.

▷ WHAT'S THE RISK?
- Issues with unidentified root causes, resulting in persistent problems.

▷ WHAT'S THE COST TO THE BUSINESS?
Poor communication and underperforming suppliers can
- Erode margins
- Result in loss revenue
- Severely damage a manufacturer's reputation and stock price
- Result in the loss of future revenue.

The Reality of Current Systems

Enterprise systems, such as PLM, QMS, and ERPs, only address a segment of the business processes for an NPI. They are unable to manage the comprehensive data required to fully understand where bottlenecks and risks exist across the supply chain.

The overwhelming majority of data associated with NPI is managed in thousands of spreadsheets stored on shared drives or employees' laptops. It's nearly impossible to standardize and aggregate this data. Because the root causes of supply chain issues span multiple departments, it's difficult for manufacturers to determine the true impact that direct materials suppliers have on their business.

The lack of visibility creates challenges and delays in launch and production phases, resulting in lower margins and millions of dollars in lost revenue. Depending on the size of the manufacturer, missing the yearly on-time delivery KPI by 10% could result in millions, if not billions, of dollars in losses. The inability to track the cost walk of a program from inception to production may lead a manufacturer to absorb a 5-10% increase in costs. Losing track of tooling locations and usage is another serious detriment to the bottom line. All of these disruptions add up to huge losses affecting a manufacturer's revenue.

Developing Internal Systems vs. Purchasing a Commercial Solution

When beginning to address these supply chain challenges, departments typically identify a specific problem to address in isolation and engage internal IT resources. At first glance, this approach appears to make sense, as internal IT projects are suited to address projects with a limited, well-defined scope. This is particularly important, because funding is viewed as a one-time expense.

On-going support and maintenance are often not part of the funding plan for internal IT projects. However, the complex business processes of a new product launch span multiple departments and include collaboration with external suppliers. This makes solving upstream supply chain

problems more comparable with enterprise systems, rather than point solutions. These systems require long-term planning, funding and thorough business analysis to ensure that business processes and data are properly integrated. In these cases, commercial solutions are more likely to achieve the project's long-term objectives, and provide ongoing maintenance and support.

When choosing a vendor, look for one that brings expertise in building, deploying, and supporting global solutions that simply can't be found in internal IT teams. Your organization will derive the most benefit from an option bringing more than a single point solution to solve challenges specific to one department, but a platform to streamline and mitigate risk across all areas of a new product launch.

A Portal Offers a Single Source of Truth

A solution should offer all parties access to data in real time, via a portal. In particular, a solution built specifically for direct material manufacturers, built to connect disparate systems and siloed departments, and built to easily adapt to changing needs through configuration, can support all business processes through new product launch and serial life. A single source of truth is essential in driving efficiency, meeting milestones and deadlines, and overall success for New Product Introductions.

Lack of visibility and control of these suppliers has a huge impact on margins, revenue and the company's reputation. Partnering with a trusted provider for a NPI portal is the best way to reduce risks, improve efficiency, lower costs and avoid costly supply chain disruptions.