

Creating Competitive Advantage through Integrated PLM and Sourcing Systems

Introduction

In a recent study of 101 leading retailers, Kurt Salmon Associates identified a select group of companies that consistently has outperformed the industry—even in today's difficult economy. We call these industry leaders Act Vertical retailers, and they all have two attributes in common: 1) They all have a brand strategy that differentiates, at least in part, a unique offering and engaging customer experience, and 2) They all have an execution plan for an end-to-end integration of the value chain through cross-functional means that are grounded in collaboration, not ownership.

Further, we identified seven core Act Vertical capabilities critical to ongoing success, one of which is the integration of product development and sourcing functions to bring the right products to consumers more efficiently. Although current systems do not yet meet all of the requirements for an integrated product development and sourcing tool, retailers can employ a variety of tactics to leverage the benefits of collaboration and integration today.

Traditionally, product development and sourcing interactions are limited to sequential information handoffs, and separate IT systems are used to support the needs of each organization. Companies typically use product lifecycle management (PLM) systems to manage the product development process from creative design to order placement, and they often use sourcing systems to manage the process from order placement to delivery. As calendars shrink, product development and sourcing processes increasingly overlap, with parallel rather than sequential activities. However, by integrating PLM and sourcing systems, a retailer can eliminate duplicate processes, duplicate data and sometimes even duplicate organizations.

Many retailers have already embraced the concept of integrating these two functions. JCPenney has long-established, close relationships with its strategic sourcing partners to share sales forecast and development responsibilities. Additionally, Guess Inc. recently selected an integrated software solution to help streamline collaboration between internal and external parties.

Several software vendors in the PLM and sourcing space are responding to this trend by actively developing integrated software solutions. For instance, Dassault Systemes recently announced a partnership with Zymmetry Group to jointly develop an integrated PLM and sourcing solution based on the Enovia platform. PLM vendors, such as Parametric Technology Corp. and Siemens Corp., have introduced supplier-management and quality-control features that go beyond PLM systems' traditional scope. Likewise, sourcing-system vendors, such as TradeStone Software Inc. and Arigo, are expanding their systems to include PLM capabilities. In addition, new players such as Centric Software Inc. are delivering integrated PLM and sourcing functionality in their offerings.

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Kurt Salmon Associates (KSA) is the premier global management consulting firm focused exclusively on the retail and consumer products industries. We work closely with our clients to create accelerated value through our tailored solutions for business growth, margin management, inventory efficiency, productivity improvement and technology effectiveness.

Integrating Processes to Drive Superior Performance

An integrated product development and sourcing strategy can significantly improve a company's performance. Specifically, companies can expect direct benefits in terms of speed and cost; companies can also realize indirect benefits in terms of product quality and innovation.

> **Increase Speed**—Integration enables real-time collaboration between internal and external parties on a common platform. Leaders in the industry have managed to reduce their average cycle time by 25% to 40%. With the use of multitrack development and sourcing models, some products could potentially go from concept to store in as little as two weeks.

RESULT: KSA's product development and sourcing database of major retailers shows that for every week removed from the overall cycle, an average of 25 basis points of margin is realized.

> **Lower Cost**—Integration eliminates clerical and redundant tasks, which account for up to 30% of the overall labor cost in product development and sourcing. System integration also enables the shift of development tasks from expensive U.S. offices and employees to overseas development centers and sourcing partners. In addition, integrated product calendars allow more accurate forecasts, which could result in lower air freight cost and raw material cost.

RESULT: Integrated product calendars typically reduce expedited shipments to 10%–20% of total shipments, resulting in a 1% to 3% reduction in COGS. Integrated raw material aggregation and planning can reduce material costs (which make up more than half of the cost of most garments) by 3% to 5%.

> **Higher Quality**—Tighter integration between product development, sourcing and suppliers permits greater visibility and control over production. Emphasis on a smaller number of strategic vendors results in consistent and reliable product execution and higher quality. An integrated sample management process allows designers and tech designers to address color and fit issues without causing delays.

RESULT: Real-time access to the latest technical specifications allows suppliers to generate products that better align with the original design vision. Increased visibility of the production and QA process minimizes costly and time-consuming overseas travel.

> **Enhanced Innovation**—An integrated process brings designers, tech designers, sourcing managers and vendors together in the development stage. Sourcing managers and vendors can provide input on fashion, raw material trends and vendor capabilities during the product planning stage. The integrated material and design libraries allow designers to reuse select concepts and data from past seasons, improving their hit ratio for design. The additional information and integrated systems allow designers to focus on what is truly new, designing more innovative products faster than ever before.

RESULT: Additional input from sourcing early in the development process and a real-time feedback process enable designers to focus on trend-right products. Companies can expect design hit ratios to increase up to 50%, while ensuring that products to which consumers will react best make it into the line.

Although more difficult to measure, there are also meaningful, but less tangible benefits that result from an integrated approach. These intangible benefits include more disciplined handoffs and execution, systems standardization and having one uniform fact base both internally and externally. In addition, integration reduces labor-intensive tasks and shortens product development timelines, which gives companies the ability to quickly adjust to volatile consumer demand without dramatic changes to the existing staff level.

Integrating Processes Successfully

There are numerous linkages between PLM and sourcing processes to consider when integrating systems, and they should be prioritized based on your organization's desired benefit in speed, quality, cost and innovation. Each implemented tactic drives a variation of the potential benefits and it is important to agree on a vision before jumping to system integration. Companies that don't set a clear vision often have trouble achieving any tangible value from their effort.

The tactics (in technical design and product development, costing, materials, cycle time, line planning and vendor management) discussed in this paper are a subset of the capabilities that integrated systems have just begun to enable today and will fully enable in the future.

Tech Design and Product Development

Technical design is the central owner of the product description and bill of materials and has traditionally been at the heart of PLM systems. Integrated PLM and sourcing functionality will share the product spec with all parties involved in the product development process. Then, when the product is ready for production, up-to-date product and PO details will all be available in one system.

- > Leading retailers share technical design and spec pack information through vendor portals enabled by today's PLM systems. These retailers improve design quality by giving vendors access to product information changes in real time. As a result of collaboration, sample iterations are fewer, product is developed faster and costs are decreased.
- > As PLM and sourcing systems are integrated, the spec development becomes more of a collaborative process to build the product. Designers, tech designers and the vendor will each contribute additional layers of detail as the spec is passed around, giving the team an accurate view of the product without adding significant overhead. As a result, better samples will be produced faster and cheaper than before.

Costing

Advancements in best-of-breed PLM system costing functionality have enabled retailers to proactively manage costs earlier in the process by setting and sharing targets, pre-costing designs and utilizing request-for-quote (RFx)/final costing.

> Retailers that calculate pre-cost information in the PLM system, which was typically available only in sourcing systems, have impacted their upfront processes by providing early indications of the cost of a style. Target costs are hit more frequently and with fewer sample iterations because designers and product development now consider pre-costs when choosing materials and construction. Knowing what the product should cost upfront increases the ability to negotiate with your vendors.

> The RFx technology available today is used for complex calculations, real-time collaboration with multiple vendors and BOM-level cost comparison. RFx provides a central repository to store product information and costing information from multiple vendors. Integrated PLM and sourcing systems enable design, product development and sourcing to collaboratively suggest product changes to achieve margins while maintaining quality standards.

Materials

The capabilities available in systems today include material libraries, demand aggregation and R&D, but these capabilities currently reside in many systems, i.e., PLM, sourcing and ERP. In the future, PLM functionality will use product definitions to trigger sourcing functionality to issue bulk material commitments. The link will be complete when ERP/PO systems are integrated to enable purchase order drawdowns against the material commitments. Although this functionality is emerging, enabling advanced material management capabilities provides benefits of speed, cost and innovation.

> Retailers' and department stores' private-label brands are using systems to manage material demand across departments, brands and even seasons, thus enabling them to negotiate lower prices as one organization. These companies have gained visibility to material usage and liabilities and greatly increased their negotiating power. As they manage demand across the company, material offices proactively lock in material costs early in the production process.

> Bulk material commitments and drawdowns will become one of the key drivers of value as these systems are integrated. The capability is also one of the more challenging to enable because there are many parts to manage in the PLM, sourcing and purchase order system. This functionality, while a few years away from being commercial in a fully integrated manner, will enable organizations to defer decisions about the style, reduce cycle time and have one consolidated view of liabilities.

PLM & Sourcing Integration Value Drivers

	INCREASE SPEED	LOWER COST	HIGHER QUALITY	MORE INNOVATION	
Tech Design and Product Development	○	⊙	○	⊙	Benefit Level ○ High ⊙ Medium ● Low
Costing	⊙	○	⊙	⊙	
Materials	⊙	○	○	⊙	
Cycle Times	○	○	●	○	
Line Management	○	○	⊙	⊙	
Vendor Management	⊙	○	⊙	⊙	

Cycle Times

Integrated PLM and sourcing systems will provide one view of the product creation calendar from concept through delivery. A single view can, in fact, be achieved today by holding the entire calendar in the PLM system and manually completing the tasks in the system. However, integration is necessary to provide real-time updates across the whole calendar. When implementing a system-based product calendar, best practice indicates that the initial few seasons help identify which activities drive deadlines or are part of the critical path. In subsequent seasons, process changes are made to either shorten the task duration or adjust cadence.

- > Leading specialty retailers and department stores have achieved better speed overall by implementing multitrack calendars, including a standard calendar for basic products and a fast-track calendar for fashion or special order products within PLM. As the PLM and sourcing calendars are integrated, a single view of the time and action calendar will help reduce overall cycle time even further by eliminating buffer time. Another method of achieving speed is to identify where activities are truly dependent and where activities can occur in parallel to shorten the calendar.
- > Integrating PLM calendars and sourcing calendars will allow better calendar management based on accurate timelines for transportation, production and material lead times. Accurate lead times for product development and sourcing times allow process streamlining, since you won't need to manage to the "worst case" lead time and can manage to the exceptions.

Line Management

Besides seasonal kickoff meetings and concept reviews, line planning is the first tangible view of the season's direction and is one area that can be enabled by a PLM system and the right business processes. Sharing the line plan downstream with product development and sourcing increases the ability of the supply chain to execute the merchant's ideas for the season. Current PLM systems allow you to create a line plan with development targets and financial targets that are reported on throughout the season.

Conclusion

In an ever-increasingly competitive environment, retailers can integrate PLM and sourcing processes to deliver more compelling products, reduce COGS and, thus, improve performance.

To maximize the value of integration, retailers should align their mix of integration tactics with their brand and product strategy. For example, a retailer with a reputation for fast-fashion should consider implementing one set of

- > As retailers link sourcing organizations to the line plan, they have been able to use this information to adjust their sourcing strategy based on how the merchant's plan affects the vendor mix requirements. This has enabled the sourcing organization to be proactive in identifying their needs for new suppliers and factories or determining possible consolidation of their vendor base. Sharing the line plan with sourcing and the vendor base provides visibility to new capabilities or required shifts in capabilities, e.g., specific specialty washes or increased need for embroidery. In an environment in which top vendors may not be in business in six months, advanced visibility to sourcing needs can drive critical decisions.
- > Financial targets in the line plan also drive the sourcing strategy by helping to identify the right vendor and country to best meet financial targets. Throughout the season, decisions about product development and production constantly flow back to the line plan for benchmarking and measurement.

Vendor Management

Collaboration is key and sharing information throughout the supply chain with the vendors is an important differentiator in system capabilities. Today's systems support basic vendor information tracking, but integrating systems enables reporting of both product development and production metrics that can be used to measure vendor performance and deliver the right product at the right price to the consumer.

- > An integrated product development and production dashboard enables the organization to pick better vendor partners by summarizing in real time the performance of vendors on metrics that range from sample iterations to on-time delivery. To complete the vendor dashboard, profitability metrics, such as margin and returns, should be added to the vendor scorecard. These metrics provide complete visibility to vendor performance and the products built with them.
- > PO management capabilities will continue to reside in sourcing and ERP solutions, but in the future, commitment information should tie back to the PLM world. Doing so will provide the merchandising organization with visibility to production delays and compliance issues and ultimately enable more informed decisions with the customers' needs in mind.

tactics to drive speed, which may be vastly different from a retailer with an objective of providing superior value. Implementing these tactics requires a clear vision for the product development and sourcing organization and a willingness to change the way an organization collaborates both internally and externally. But KSA research demonstrates that retailers that integrate functions successfully will be rewarded with increased sales and market share.