



In this series of topic sheets on industry trends affecting product development, PTC's Vice President of Product & Market Strategy, Kathleen Mitford, analyzes the benefits of using enterprise Product Lifecycle Management (PLM) to proactively achieve sustainable Cycle Time Reduction.

What is Cycle Time Reduction?

Cycle Time Reduction focuses on minimizing the amount of time spent on the entire product development cycle—from product conceptualization to retail store delivery.

Why Is This Trend Important?

Until recently, Cycle Time Reduction was a term that was limited to the fashion world, and most commonly associated with leading fast-fashion apparel companies. Some trailblazers like Zara and H&M became so adept at cutting cycle time that they were able to go from concept to retail store in as little as two weeks.

Increasingly, though, Cycle Time Reduction is being applied to all types of products, not just fashion apparel. Today, there is a 'fashion' aspect to almost every type of product that consumers can purchase. Think about the fashion aspect of consumer electronics—iPods, Blackberrys, laptops and in elements such as color and shape. Home items, too, are increasingly being presented as 'coordinated ensembles', rejecting the latest color and print trends. No doubt, the fashion trend is showing no signs of cooling off, with global media and TV inspiring young consumers to catch the wave toward a seemingly endless array of toys, dolls, backpacks and video games.

'Fashion' can also be thought about as predicting the latest market trends, whether the trends address shape, size, color, logo or cartoon character. Once trends are recognized, the ultimate goal for manufacturers is to translate them into a product idea that will entice customers to buy. In today's fast-paced environment, the challenge is to complete the analysis of a trend and then deliver a product before the trend has passed.

To capture the latest trend, it is important that design decisions be made very late in the product development process, so that the most up-to-date thinking can be incorporated into the product concept. Making timely, informed decisions—as late as possible in the process, gives a company a higher chance of designing products that customers want to purchase. This strategy also leads to a higher percentage of products being sold at full retail selling price, thus avoiding future markdowns and excessive inventory levels.



To react to market changes, customer demands and regulatory requirements, leading retail companies are embracing enterprise PLM.

“Reducing cycle time has clear financial benefits for retailers and wholesalers. Our research shows that for every four weeks taken out of a cycle, margins increase by one (1) point at retail.”

– Jeremy Rubman, KSA

Another factor that’s forcing manufacturers to deliver the right products to the store at the right time is that, because of today’s volatile economic environment, consumers have less discretionary income to spend. To avoid excess inventory, management must make design decisions later in the process, which gives a company the opportunity to analyze the recent sales data, so quantities of products can be accurately forecasted.

What business processes are impacted most by cycle time reduction – and how can PLM enable these processes?

To make a significant impact on your overall cycle time, managers must take a close look at every process in the product development system. Companies that have significantly reduced their cycle time realize that all departments – from up-front planning to back-end delivery – must work together in a choreographed way.

Here are the areas impacted most by Cycle Time Reduction:

Merchandising and Design Process

Merchandising kicks off the product development process by providing clear direction of the plan for the seasons to come, including the financial goals, with information such as:

- Target retail, target cost, and margins
- Assortment goals for the type of product mix
- Creative goals based on the current season trends

These merchandise plans, created either in a Merchandise Planning System or directly in a PLM system, are translated into line plans with placeholders that include directional product information for the design team.

In a PLM system, designers can design multiple product candidates for each placeholder and easily share the product concepts with the merchandising team. The tight collaboration between Merchandising and Design, early in the product development process, allows the design team to focus their design efforts on the type of products that merchandising will be adopting into the line, thus ensuring valuable time and effort are not wasted either on products that will never make it to line adoption, or on late adds.



Constantly changing consumer trends require retailers and brands to stay in touch with consumers’ needs and interests.

Creative Design: Integration of Adobe® Illustrator® into the Design Process

As the design process continues, PLM provides multiple ease-of-use features to accelerate the translation of a designer’s idea into a product concept that can be shared with the rest of the team.

Advanced PLM solutions, such as PTC® Windchill® FlexPLM™, offer a direct integration with Adobe Illustrator (AI), which allows a designer to quickly create a product specification from within AI. From within the familiar Adobe user interface, the designer can access color and material libraries from FlexPLM and assign these to a product—along with descriptive product attributes – to generate a product ‘design card’. The fast generation of the product spec is important early in the design process, so a product can either be accelerated or failed quickly.

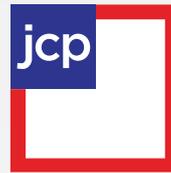
Customer PinPoint: Cycle Time Reduction at JCPenney

To keep up with consumer demand and fast fashion trends in the Retail and Apparel industries, JCPenney realized that it had to decrease the amount of time it takes to develop a new product line from several months down to a few weeks. To accomplish this objective, JCPenney launched its cycle Time Reduction initiative, an enterprise-wide program focused on shortening the amount of time from conceptualization to merchandise delivery.

“The ability to respond to customer needs quickly, and deliver merchandise efficiently, is critical to delivering on JCPenney’s vision to be the preferred shopping choice for middle America.

As an important enabler to our Cycle Time Reduction initiative, FlexPLM is a robust infrastructure that spans our global supply chain, enabling our Associates to collaborate more effectively and deliver merchandise that inspires our customers.”

– Peter McGrath
EVP Production Development and Sourcing for JCPenney



Calendar Management

One of the most important—and most challenging—disciplines for achieving Cycle Time Reduction is adhering to a calendar. The difficulty here is that each product has its own cycle time, but all products must be delivered to the retail store at the same time.

PLM solves this issue because it allows you to manage seasonal calendars, yet maintain different calendars with different milestones by product type. For example, a ‘fashion’ item may have a six-week calendar, but a core or basic item may follow a traditional 32-week calendar. Easily managing multiple calendars is a key requirement for reducing non-value added activities during the product development process.

Specification Development Process

The Specification Development Process can be accelerated using a PLM solution because data from the design concept has already pre-populated the product specification. PLM allows you to define product templates for different product types, so you can then quickly create the product specification. In addition, PLM offers multiple ease-of-use features such as defining copy rules by product type, linking specifications of similar products, and clipboard copying, which enable the quick generation of the spec. This ease-of-use feature is key to delivering the spec to the manufacturer faster, as well as reducing time spent resolving quality issues once the product has been produced.

Early Sourcing

As all job functions in the product development process are accessing a common, web-based PLM system, the Sourcing team has visibility into the line from conceptualization. This insight allows Sourcing to begin thinking about those manufacturers best suited to producing the product. A search of suppliers against the product requirements can be executed quickly, so potential suppliers can be identified to place a request for quote. PLM is capable of housing vital supplier information, such as the supplier’s current capacity and past performance, in a vendor scorecard, so that decisions can be made quickly. As quotes are received from the supply chain, PLM provides an efficient way to analyze multiple quotes, so that Sourcing can make informed placement decisions fast.

Supply Chain Collaboration

Once a product has been placed with a supplier, PLM enables supply chain collaboration by giving the supplier direct access to the related product information residing in the PLM system. With proper authorization managed by the PLM system, the supplier has access to view information, as well as to make updates to parts of the product specification or calendar that they own. This direct integration to the supply chain saves valuable time otherwise spent communicating through email or updating data in multiple systems.



Product development used with product lifecycle management (PLM) tools and best practices is often justified by hard cost savings alone via material savings, reduced administrative labor, and the elimination of redundant system maintenance. When complemented with dramatic increases in speed to market, it provides a compelling and strategically important value proposition. The benefits are real: initial implementations have generated 20% lead-time reductions via improved visibility and accountability. With advanced postponement techniques, lead times have been reduced by as much as 50%.”

– AMR Research

What are the Benefits of addressing Cycle time Reduction in PLM?

By leveraging web-based, collaborative PLM tools, companies have greater visibility into the right data, which allows them to make smarter decisions faster—as late as possible in the development cycle—without impacting costs and schedules.

A more difficult benefit to measure in PLM is the increased efficiency of the product development team. PTC’s experience shows that by having all internal and external team members working from a ‘single source of the truth,’ team members are not wasting precious time chasing down data or working on inaccurate information. As a result, designers, in particular, benefit from being able to focus on innovation.

Lastly, PLM can directly benefit sell-through and inventory management, as companies can make smarter design decisions later in the process regarding what types of products should be offered for a particular retail delivery. With PLM, companies in Retail, Footwear & Apparel, and Consumer Products can achieve the ultimate goals of Cycle Time Reduction: cutting overall man hours and eliminating wasted inventory.

To learn more about how PTC can address your PLM and Cycle Time Reduction, please visit:

PTC.com/industry/retail



Early visibility throughout the supply chain process can decrease costs, inventory errors, and compliance issues.

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