# Accelerating Product Life-Cycle Decision Making in Retail

Economic, demographic, and competitive realities have contributed to creating a challenging environment for retail companies. More than ever before, companies are hard pressed to make highly effective product-related decisions that deliver innovative, high-quality new products to market faster. Facing stiff competition from a wide array of competitors, including consumer goods brands that are increasingly taking goods direct to market and new etail and discount formats, retailers are challenged to deliver differentiated, price-competitive products to market faster to support business growth and financial performance. In their competitive environment, retailers face a number of growing challenges:

1. Accelerating pace of innovation, with shorter product life cycles and higher demands for on-trend product

2. Growing regulatory complexity, in terms of both governmental legislation and consumer visibility, leading to greater frequency of product recalls and negative brand image

3. Proliferating requirements, not just in product attributes/sizes but also in delivery requirements and frequency, exacerbated by the "globalization of demand"

4. Demand for more efficiency in processes and in asset management, which translates into less tolerance for inefficient workflow and wasteful processes that result in wasted materials or failed products

These challenges exist in the context of a more competitive environment for outsourced manufacturing capacity and escalating global resource costs, pinching margins and lowering risk tolerance.

## The Challenge of Multidisciplinary Decision Making in Retail Companies

Effective product development demands that companies excel in efficient and impactful multifaceted and cross-disciplinary decision making. This is particularly important for the retailer that is faced with a high level of product churn (necessitating different levels of "innovation"), inherently

low new product success rates, and pressure to shrink product assortments and inventory levels. However, the traditional organizational structures and product development methodologies cannot always meet these new challenges. In Table 1, based on recent conversations with senior retail executives, we highlight some of the specific current challenges faced by retail companies.

## TABLE 1

### Product-Related Challenges Faced by Retail Companies

| Product-Related Challenge | Functional Involvement | Business Implications |
|---|---|---|
| Incomplete knowledge of prior new product launches | Product Development, Merchandise Planning, Sourcing, Marketing | Failure to learn from past mistakes; costly rework |
| Cross-functional collaboration is too slow/out of synch with the clock speed of the business | Product Development, Merchandise Planning, Merchandising, Sourcing, Marketing, Supply Chain, Operations | Delayed new product launches; rework costs; poor quality |
| Disconnect between materials/components/ingredients and suppliers | Product Development, Merchandise Planning, Sourcing, Finance | Failure to achieve gross margin targets; rework costs; launch delays |
| Color, sizes, and styles rejected by Merchandising or Merchandise Planning | Product Development, Merchandise Planning, Merchandising, Sourcing, Supply Chain (Logistics) | Delayed new product launches; rework costs; poor quality |
| Poor SKU management — particularly discontinuation | Merchandise Planning, Sourcing, Marketing, Supply Chain, Operations | SKU maintenance cost; portfolio complexity; forecast inaccuracy |

Source: IDC Retail Insights, 2011

Even though many leading retailers have implemented various forms of an innovation funnel process, they still follow a linear path in which decisions are made within traditional development disciplines: product design and development, merchandise planning, sourcing, merchandising and inventory management, supply chain, and store operations.

This linear, forward-feeding flow of product information and decision making emphasizes individual task performance and is optimized to meet the goals and address the constraints of a given product life-cycle phase, often within a singular functional area. For instance, a product development manager may develop the design and form of a product that best meets on-trend demands but may be unaware that the materials either are too expensive or fail to meet seasonal product assortment requirements. This kind of disconnect adds significant inefficiency to the innovation process and drives both cost overruns and lead-time failures. In another example, a sourcing agent may focus on identifying lower-cost suppliers, but lacking insight into the final

product design requirements, the sourcing agent chooses suppliers that are not able to meet quality and delivery expectations. Consequently, these two well-conceived decisions end up being at odds with each other, a fact that is not immediately apparent to the individual groups. In like manner, downstream activities such as assortment and allocation/distribution planning often are treated as afterthoughts and commence late in the product life cycle, at which point the ability to influence already-made decisions either is reduced or requires significant, and costly, rework — again, adding significant cost and lead-time overruns to the innovation process.

## Optimized, Individual Decisions Threaten Strategic Business Goals

Product life-cycle decisions that are made independently of each other may be highly optimized individually, but collectively they contribute to an overall suboptimal product life-cycle design, leading to delays, cost overruns, and subpar quality. All too often, lack of visibility into downstream activity or lack of clear understanding of the higher, strategic business-level goals that could be achieved by decisions made in the proper context results in a correct decision made within one product group, one location, or one discipline, jeopardizing the ability of a downstream group to accomplish its objectives. One long-standing, yet oft-repeated example in retail is the process of cost optimization for either existing or new products. Typically, this begins with efforts to reduce the cost of materials or ingredients through either the selection of a different grade or type of material or the elimination of things like buttons, decorative stitching, and pleats. From a sourcing perspective, these efforts can be quite fruitful; but if the implications of the redesigned product within the merchandise planning process are not considered, the end product placement may shift the balance of the entire collection or assortment, impacting sell-through of more than one product and easily overwhelming the procurement savings. One retail executive that we spoke with stated that his company takes a total landed cost/assortment performance view of these kinds of initiatives to ensure that the business understands the total system effect of any change and does not suboptimize the whole as a consequence of trying to optimize just one part.

Informed, collective decision making calls for the involvement of and input from different disciplines within the product management process and, often, stakeholders from different product life-cycle phases. However, achieving this level of process maturity is not without its challenges:

- Decision makers in one area may not have adequate visibility into and comprehension of the impact their decisions have on downstream activities.

- The underlying business processes may not properly link strategic intent to tactical or operational activities.

- The supporting IT tools may simply be inadequate for the task.

- Incentive systems may encourage optimized individual decisions at the cost of the overall business decision.

## Quality and Speed of Decision Making Impact Market Success

Although any company that designs and sells products has its own particular challenges, the very dynamic and competitive nature of the retail industry makes it particularly susceptible to product life-cycle decision-making disconnects:

- Retailers face high levels of product churn, which varies with product category. Many categories turn over more than half of their product mix in any given year, and others turn three times a year, resulting in somewhat varying degrees of innovation. The pressure on the product management and development process is merciless.

- The success rate for new products is quite low — reported by one retail company as below 30%.

- Tight margins on branded goods are driving higher dependence on efficient production of private-label products. Private-label assortments are broadening, and interest in "innovation" has intensified.

- Retail companies do not usually manufacture their own private-label goods, which creates significant interdependencies with their suppliers. Collaborative processes are necessary to "jump" the chasm that can exist between them, stalling product development for weeks unnecessarily.

- Retailers without a long heritage of product development may not have the technological tools to manage cross-functional calendars and to expedite workflow, which puts them at a disadvantage when cycle time is of the essence.

It is not a stretch, therefore, to suggest that market success for the retailer of private-label products depends significantly on the quality and the speed of product-related decisions, and companies that do not excel in managing those decisions holistically — and the information that is used to drive correct decisions — are frequently disillusioned when products fail to meet business expectations. Certainly, many organizations have recognized that key decisions concerning downstream processes must be incorporated into the early design decisions, lest late changes become prohibitive; yet, many other

organizations have not. Either they do not possess the requisite process maturity, or they do not possess the business visibility or IT tools necessary to incorporate multidisciplinary decisions early in the product life cycle.

By definition, multidisciplinary decisions involve multiple stakeholders and decision makers who make many critical decisions throughout the entire product life cycle. These individuals not only have different — and sometimes conflicting — business goals and incentives but also often have different backgrounds, training, and skills. Moreover, as retail companies become more global, targeting new markets and capitalizing on resource pools in lower-cost regions, language and cultural differences further impede effective and consistent decision making.

Another dimension of complexity that eludes many retail companies is that experienced workforces in mature regions are nearing retirement. Organizations that have traditionally relied on the voice of experience, even if it is expressed in an ad hoc and unstructured way, as it usually is, will have to seek alternate and more formal means to effect product-related decisions.

## Multidisciplinary Decision Making Requires a Collaborative Platform

The complex and iterative nature of multidisciplinary decision making necessitates information sharing and workflow that are difficult to accomplish using the fragmented IT environment that typifies many retail companies. Many organizations employ a heterogeneous set of data stores and tools (e.g., CAD, PDM, PLM, ERP, SCM), as well as task-specific tools such as simulation and analytics, and myriad individual documents and spreadsheets. These tools, in turn, support fragmented business and decision-making processes.

In terms of overall maturity, IDC Retail Insights would put most retailers at an entry point today, with some manual, but predominantly fragmented processes and IT tools. Companies that have implemented enterprise collaborative applications are typically replacing large numbers of point solutions.

Retail companies also realize that things like the innovation process are not a series of disconnected processes; rather, they are connected (crossing organizations, local and global sites, and partners) and must be coordinated to manage and optimize the product pipeline and product throughput while also lowering costs and maintaining quality, compliance, and traceability.

To successfully tackle these challenges, retail companies must equip their workforce with an enhanced IT platform that not only supports but also encourages high-level collaboration and effective decision making.

Such a platform would deliver profound product detail — both business and technical — that would provide a complete, accurate, and up-to-date context for effective decision making to all users across disciplines including marketing, product development, sourcing, merchandise planning, operations, and supply chain. Similarly, this platform would be equally valuable to users independent of their technical skills, experience, and language.

Research shows that making extensive use of visually represented information helps even the playing field for cross-disciplinary decisions — even more so when skills, culture, or language differences might play a role in the fidelity of these decisions. This is particularly relevant to the retail industry where presentation and brand image are such integral parts of the business value proposition.

## Visualization Simplifies Access to and Understanding of Information

Visualization is especially effective in synthesizing different data sources and assessing the cross-domain relationships and impacts of product-related decisions. Visual representation of product information facilitates effective communication of complex data to technical and nontechnical participants and allows for the inclusion of a wide range of stakeholders in the decision process. In retail products categories specifically, where the appearance of a product and/or product packaging is so critical to the brand promise, visualization capabilities can be transformational. In this context, visualization does not need to be limited to just the actual product. It also is a way to display the "virtual shelf" and how the product fits into the retail plan-o-gram. For retailers, visualization can be extended to the consumer so that they can evaluate fit to person (clothing and accessories) or purpose (furniture and other household goods).

Essentially, visualization simplifies access to information by decoupling the intimate product knowledge and skills required to use complex tools from accessing information and applying it to decision-making activity. The intuitive aspects of visual data representation take on more of the burden of bringing to the foreground information that is relevant to a given user's role or task. The visual delivery foundation is more proactive and less dependent on the user to search and find information. Product companies must make access to product information straightforward; for instance, product data housed in a siloed standalone database maintained by a single group (e.g., product development) is no longer acceptable.

Obviously, visualization is not limited to the traditional engineering 3D view of product structures. Rather, it must be inclusive of the multiple kinds of data that are essential to achieve high-quality decision making in every phase of the life cycle of a product. While

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the utilization of traditional design and engineering tools will continue, these tools must be augmented by additional technologies that allow for more comprehensive data analytics. Furthermore, more comprehensive product knowledge will be accessible to a broader circle of stakeholders from across the life cycle, allowing for discovery of issues far earlier in the product life cycle, when such issues are significantly cheaper and easier to resolve — and less likely to delay new product launches.

## Business Requirements for a Collaborative Decision-Making Platform

An archetypal decision-making foundation consists of a platform and a workflow that span multiple product life-cycle phases, tools, and data stores. This foundation should:

● Provide access to and visibility into all aspects of the product life cycle from a heterogeneous set of data stores and tools, including both formal and ad hoc methods. Moreover, the open nature of this platform ensures that as organizations mature, reduce IT fragmentation, and adopt new tools, decision makers will continue to have effective access to them.

● Support intuitive and effective data navigation that does not require deep understanding of product structure. Moreover, such a platform should provide a dynamic and flexible navigation paradigm across life-cycle disciplines that fit individual task performers. For instance, users can switch from navigating by product structure, which is an engineering paradigm, to supply chain–centric navigation, traversing parts that are from the same supplier or that have a suboptimal cost-quality ratio.

● Improve organizational ability to analyze, understand, and act upon product-related data. Mashing up data, regardless of the source and semantics, opens the door for whole life-cycle analytics and what-if scenarios that are impossible using individual tools. When combined with flexible navigation and presentation methods, those analyses can be converted from complex static reporting to an environment that delivers visual cues that enable background analytics and monitoring processes to inform users where decisions need to be made or provide guidance in making the best context-rooted conclusion.

● Protect and reuse corporate memory. Many product organizations do not have the means or the culture to capitalize on the vast experience gathered throughout the development of other products. As a result, they often waste valuable resources resolving issues that could have been avoided in the first place. A platform that guides decision makers by discovering and exposing company

knowledge and best practices would improve the fidelity of decisions during development phases and accelerate the resolution of unseen problems, which will then be available for other constituents and future products.

● Facilitate a platform that enables cross-disciplinary collaboration. Product companies are faced with many options related to user interfaces. While some interfaces are designed for engineering disciplines, others may be better suited for service personnel. A collaboration platform not only must be widely usable but also must encourage interaction, sharing, and collaboration between departments and corporate disciplines, potentially extending beyond corporate walls to partners and suppliers. A user interface that is fundamentally built around visual information and is adaptable and easy — perhaps even fun — to use helps decouple specific tools and processes from the decision-making activity, helping individuals achieve a higher level of decision integrity. The interchange of timely information between users and groups will help promote agility and confidence in the decision-making process.

## Collaborative Decision-Making Platform Forms the Foundation for Next-Generation PLM

IDC Retail Insights recommends that retail companies implement an enterprise product information strategy to improve collaboration and decision making, supported by a software platform that connects the different tools and data stores. The decision-making platform will facilitate effective and secure access, making product information available and understandable to all participants in product life-cycle decisions. Furthermore, we believe possessing such a decision-making platform represents a source of future competitive advantage.

It is our belief that retail companies that facilitate this approach will establish a more complete context for understanding all phases in their product design cycle. This platform forms the foundation of the next generation of enterprise product life-cycle management (PLM), incorporating portfolio-level decisions, past best practices, and reuse opportunities as essential capabilities. We anticipate that this platform will help companies to:

1. Capture and validate decisions against the appropriate rationale to ensure a more complete impact assessment and make decisions sooner with a higher level of confidence.

2. Accelerate business processes and approval cycles to reduce time to market and reduce costs.

3. Improve total life-cycle quality, costs, and customer satisfaction, which in turn enhances brand image and market position.

4. Improve speed and accuracy of decision making, especially in processes that today lack reliable context or are reactionary and created under time pressure.