Optimizing the Packaging Supply Chain

Kodak

Executive summary

For brand owners and retailers, mistakes in store-brand package labeling can be catastrophic. Industry experts estimate that 68% of recalls are due to incorrect or mislabeled packaging rather than the product itself; 40% of missed product launch dates can be attributed to package readiness. Despite these and other significant business risks, packaging design, development and production processes are usually not controlled and managed as closely as product processes. Brand owners, print service providers and retailers have an opportunity to avoid costly product recalls and litigation costs, accelerate product time-to-market, and reduce operating costs by optimizing the packaging supply chain.

Consumer Packaged Goods (CPG) Industry Challenges

For many brand owners and retailers, far greater attention is paid to what goes inside the package rather than the package itself. This is natural, as executive attention and mindshare is focused on the products that consumers purchase and use. However, the result is that the processes for managing package development and production are often not controlled as tightly as the processes for product development. In large, complex organizations, packaging processes have emerged over time and distance, resulting in inconsistenties within and between departments. As a result, we see packaging processes within CPG companies, their suppliers and retailers tending to share these characteristics:

- **Lack of auditing and tracking capabilities.** Traditional paper-based methods of tracking and auditing that are costly, time-consuming and error-prone.

- **Poor management and visibility into packaging project status.** Tracking package development status—from concept to design, through approvals, to production and product launch—correcting errors early or adjusting product schedules is manual and labor-intensive.

- **Lack of coordination and collaboration between departments and suppliers.** Manual workflows tend to complicate and slow down the approval, authorization and communications process.

- **Difficulty in leveraging packaging assets.** Package designs and content are often stored on desktops or hard drives scattered throughout the organization or with an outside agency. Even when content management systems are in place, there is limited ability to perform version control and track work in process assets across campaigns, projects and stakeholders.

The business impact of these flaws can be significant. Specifically, we see packaging having a direct impact on three dimensions of financial and operational performance:

1) Catastrophic failure.

Lack of control in packaging processes can have significant negative ramifications. Industry experts estimate that 68% of product recalls are due to the package rather than the product itself. Approximately 40% of missed product launch dates can be attributed to package readiness, or lack thereof. In addition, missing or incorrect information on packages can lead to regulatory citations and consumer lawsuits.

2) Excessive operational burden.

Inefficient processes result in packaging errors that are detected late in the process and cannot be traced back to the root source for systemic correction. Version control is cumbersome or nonexistent; when changes are made to a packaging graphic, it is difficult to find and update all other projects using the same graphic. These are the easy-to-see, hard-to-quantify problems that organizations with non-standard inefficient processes experience every day.

3) Increased operational costs.

The problems caused by highly manual, ad hoc private label packaging processes are not easy to overcome. In fact, these inefficiencies will be magnified by the ever-increasing complexities of the CPG retail industry, which include:

• Greater channel proliferation

• Increased product competitiveness and differentiation

• Greater need for localization / regionalization to capture market share
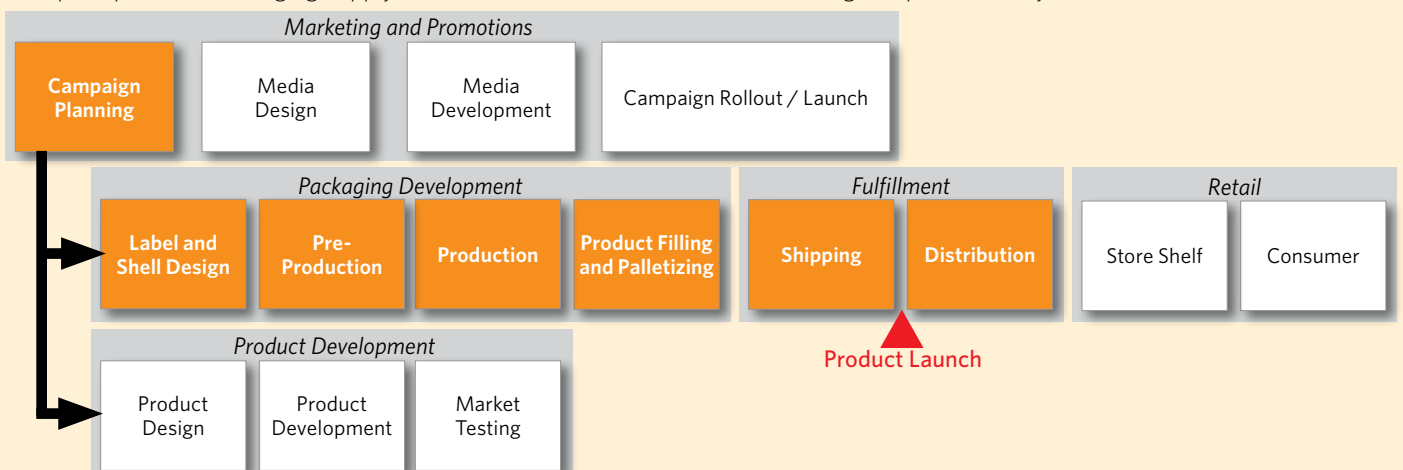
• More complex, global product and packaging operations

• Organizations trying to perform the same amount of work with fewer resources (i.e. labor and budgets)

Inefficient, manual-intensive packaging processes lead to higher direct costs to operate. While these costs may not be on the same scale as those associated with catastrophic failure, the opportunity for improvement is real. In fact, streamlining operations can reduce operational costs, while at the same time lowering the risk of product delays and packaging errors. Once these deficiencies are corrected, savings can be realized on an ongoing annual basis.

In short, there is a real opportunity for improvement and the time to act is now. While the challenge may seem significant, it becomes more manageable with an understanding of the role of packaging within the product life cycle.

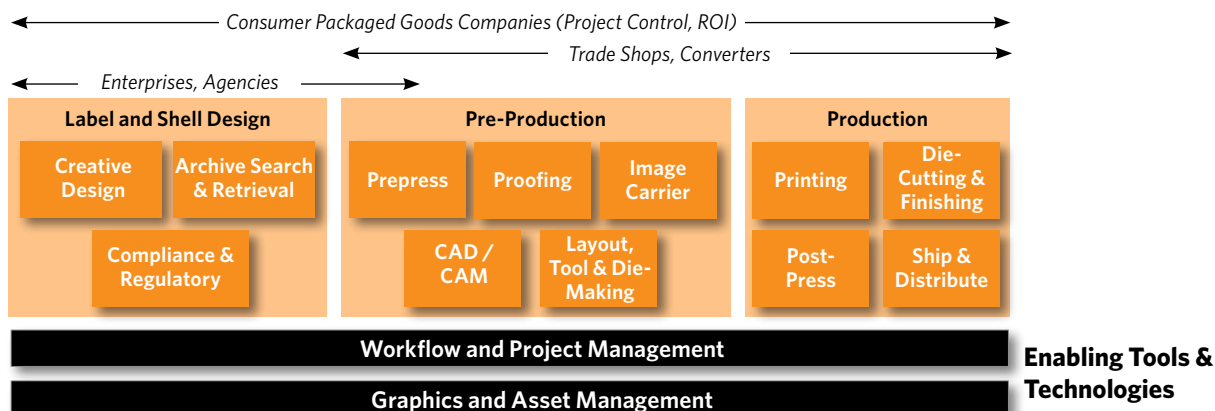## A Holistic View of the Packaging Supply Chain

Mistakes in packaging label design are costly if they are not detected and corrected early in the process. If not detected prior to production, errors may lead to expensive rework and product recalls. To understand improvements in upstream design processes, it helps to place the Packaging Supply Chain in the context of the overall marketing and product lifecycle:

Marketing and Promotions

| Campaign Planning | Media Design | Media Development | Campaign Rollout / Launch |

Packaging Development

| Label and Shell Design | Pre-Production | Production | Product Filling and Palletizing |

Fulfillment

| Shipping | Distribution |

Retail

| Store Shelf | Consumer |

Product Launch

Product Development

| Product Design | Product Development | Market Testing |

The Packaging Supply Chain does not exist in a vacuum. Marketing and Promotion campaigns as well as Product Development efforts rely on having packages produced in a timely manner; failure to do so may jeopardize product launch dates. Detecting and correcting package labeling errors early in the process is crucial, because correcting these problems becomes more expensive—and, potentially, a public embarrassment—as the product and package moves from shipping to distribution to the store shelf.

Vision of the Future: The Optimized Packaging Supply Chain

Effective management of the Packaging Supply Chain requires control and coordination of assets and processes that span several organizations:

← Consumer Packaged Goods Companies (Project Control, ROI) →

← Trade Shops, Converters →

← Enterprises, Agencies →

Label and Shell Design	Pre-Production	Production
Creative Design / Archive Search & Retrieval / Compliance & Regulatory	Prepress / Proofing / Image Carrier / CAD / CAM / Layout, Tool & Die-Making	Printing / Die-Cutting & Finishing / Post-Press / Ship & Distribute

Workflow and Project Management

Graphics and Asset Management

Enabling Tools & Technologies

The Optimized Packaging Supply Chain
Common Capabilities and Traits

As with any complex business challenge, there is no "one size fits all" solution to the Packaging Supply Chain challenges faced by brand owners, service providers and printers. Generally, however, we tend to find five traits common to companies that have focused on improving packaging design and development capabilities:

1) Streamlined, well-defined workflows. Companies achieving best-practice performance in packaging define standard workflows that eliminate excessive handoffs and minimize wait time and waste between work steps. In addition, these organizations define customized workflows to handle exception and escalation processing, as well as the rules for when customized vs. standard processes should be deployed for a given project.

2) Automated routing, escalation, and status reporting. With the availability of new technology and workflow management tools, companies can better control the speed and tracking of projects as they move through the system. But the availability of enablement tools is not enough; careful consideration must go into the rules governing load balancing, approval processes, and information needed for effective management oversight.

3) Effective traceability and transparent auditability. Effective oversight and risk management goes beyond tracking the status of the packaging process. The optimized Packaging Supply Chain supports and enables all stakeholders involved in the package review and approval process, including internal resources (e.g., Legal) as well as external entities (e.g., a regulatory body or print service provider).

4) Streamlined and automated asset management capabilities. The optimized Packaging Supply Chain allows packagers to repurpose content for multiple projects and media. It also enables version control so that the "latest and greatest" version of a graphical image is used appropriately on new projects. Finally, asset management capabilities simplify the management and verification of digital rights for images.

5) Controllable infrastructure with the capability to deliver target image quality on the final printed package with predictability and repeatability. Producing high-impact packaging consistently and efficiently across geographies, substrates and print processes not only enhances the brand experience for consumers, it removes time and cost from the overall process.

Those are the "building blocks" of an effective Packaging Supply Chain. CPG companies and their supply chain partners that have achieved a truly differentiated packaging capability tend to share these traits as well:

Regionalization and customization of package design. As marketing strategies use more sophisticated segmentation schemes, messages need to be tailored to each segment. The ability to tailor a package's visual and text information to local markets, while maintaining centralized control for brand consistency, becomes a competitive weapon for increasing share.

For CPG and supplier companies, it is paramount that brand consistency be maintained even as packages are printed on different materials in different countries.

The use of speed as a competitive advantage to drive market share. To support and enhance marketing promotions, the optimized Packaging Supply Chain is able to respond to events and change designs quickly. Coordinated, multi-channel marketing campaigns are supported by a consistent look-and-feel in packaging. Seasonal promotional programs are supported by seasonal packaging designs.

Business Results Achieved by Optimizing the Packaging Supply Chain

In working through the challenges of the Packaging Supply Chain across multiple industries, Kodak has helped companies develop these capabilities and achieve significant business impact. The broad range of improvement opportunities include the following:

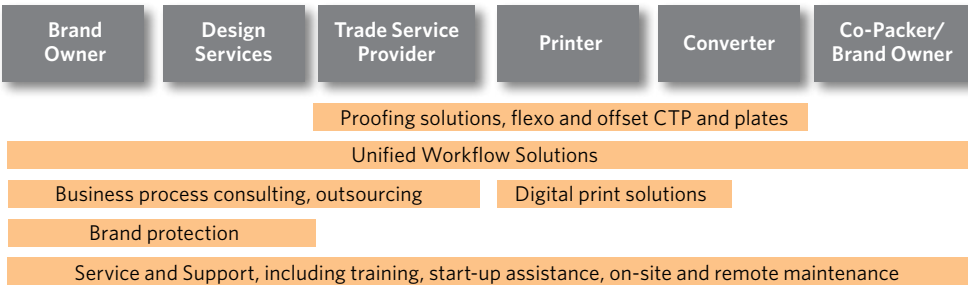| Improvement Opportunity	Drivers of Improvements
Reduced risk of lawsuit / regulatory	• Kodak can help you design processes that take into account explicit regulatory and compliance approval requirements. • Kodak can also help you improve auditability/traceability to ensure greater attention and focus on critical details. • The risk is significantly lowered by Kodak's ability to detect and correct packaging mistakes earlier. • It has been Kodak's experience that those who implement lean packaging design workflows avoid mistakes that could result in recalls. • Although this improvement opportunity is difficult to measure, companies see it as both real and significant.
Reduce time to market by 25% to 50%	• Fewer cycles are required for package design review and approval. • Real-time visibility into project status reduces package errors by detecting them early. • Reduce project wait time with workflow automation, load balancing and task escalation. • Increase package throughput by enabling parallel, collaborative workflows.
Reduce operating expenses by 20% to 35%	• Complete tasks faster. • Improve collaboration among teams and departments. • Reduce materials usage and waste. • Standardize processes and workflows.

Charting a Roadmap for Change

In Kodak's experience, once stakeholders recognize and understand the underlying strategic issues, the journey to optimizing the Packaging Supply Chain can begin. The first order of business is to develop a roadmap that identifies the goals of optimization and includes key functional group and supply chain partner representation. A senior steering committee can help develop and execute the roadmap. The committee's ownership ensures that issues encountered along the way are resolved and that communications flow smoothly to convey project status and reemphasize the benefits of change.

To drive the transformation, a company may consider engaging an experienced business partner to act as a trusted advisor, become a part of the team, and own the success of the transformation from beginning to end.

Kodak is uniquely suited to enable this transformation process. Our unparalleled expertise at the intersection of imaging and materials science, combined with our long-standing relationships and experience at every stage of the Value Chain, have led to the development of the most comprehensive and integrated portfolio of workflow, prepress, proofing and security solutions for the package printing industry.

Kodak's Solutions Cover the Entire Packaging Value Chain

Brand Owner	Design Services	Trade Service Provider	Printer	Converter	Co-Packer/ Brand Owner

Proofing solutions, flexo and offset CTP and plates

Unified Workflow Solutions

Business process consulting, outsourcing   Digital print solutions

Brand protection

Service and Support, including training, start-up assistance, on-site and remote maintenance

Solutions include Kodak's innovative workflow, which streamlines package development and production from one end of the process to the other. During the design and development stage, **Kodak Design2Launch** Solutions increase visibility and optimize use of time and resources with effective management of brand assets, approvals and reporting. During package production, **Kodak Prinergy Powerpack** Workflow creates a reliable manufacturing process that automates steps, reduces errors and streamlines operations. Kodak's Security Solutions, including the **Kodak Traceless** System, enable print service providers to help brand owners protect their brand with best-in-class anti-counterfeiting tools, which integrate into a wide range of materials with no disruption to product design or production processes.

The breakthrough **Kodak Flexcel** NX Digital Flexographic System delivers differentiated print, increased production efficiencies, and maximum positive impact on sustainability goals. This innovative system not only enables flexographic print quality to rival offset and gravure processes, it brings predictability and repeatability to the flexographic printing process, resulting in significant reductions of substrate waste and ink usage.

Summary

Kodak is uniquely suited to enable the optimization of the Packaging Supply Chain. Our unparalleled expertise at the intersection of imaging and materials science, combined with our long-standing relationships and experience at every stage of the Value Chain, have led to the development of the most comprehensive and integrated portfolio of workflow, prepress, proofing and security solutions for the package printing industry. As you look at your packaging development and production processes, consider Kodak a trusted guide to help optimize the Packaging Supply Chain, accelerating time-to-market, helping remove redundancy and waste, and ultimately enhancing the brand experience for consumers.

To learn more about packaging solutions from Kodak:
Visit www.kodak.com/go/packaging

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It's time for you **AND** Kodak