



Managing color in complex supply chains

Jay Sperry of Havi Global Solutions discusses the importance of incorporating advanced packaging technology into integrated systems

Packaging makes a critical first impression. It engages the target customer with printed graphics that inform and activate key product messaging. When executed correctly, packaging also establishes the product's quality position and reinforces the brand and product experience.

Given how important the role of packaging is, optimizing packaging and artwork development processes is critical to ensuring accuracy and consistency in printed graphics, from production through the point of purchase. And while this may sound relatively easy, it is not.

Many factors complicate the delivery of consistent, quality packaging. From a global supply chain perspective, the complexities that stem from scaling to serve many diverse countries with graphics tailored to meet individual market needs must be juxtaposed against feasibility and technical constraints, corporate social responsibility goals, and cost reduction initiatives. Opportunities to add value by reducing time-to-market for new packaging graphics, simplifying the print approval process, and increasing the efficiency and productivity of graphics management resources can be realized, but can backfire if managed as separate entities.

On the brand side of the equation, it is equally important to anticipate and integrate brand and design expectations for color standards within the execution platform, while facilitating real-time communication and data exchange throughout the process and

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across geographic regions and supply stakeholders. Significant advancements in the printing industry over the last decade have brought to market enterprise solutions for syncing production color measurement systems with cloud-based databases for brand standards and design expectations; still, delivering on-target color in a complex operating environment requires special attention by dedicated experts, managed through an established process workflow.

Furthermore, a comprehensive and holistic approach is required to improve the quality and consistency of packaging and artwork outcomes in complex supply chains. The approach must consider and integrate governance, the supply chain process, partnerships, and emerging technologies.

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- new FE 52 line sensor with color matrix chip
- color touchscreen
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- graphical display
- set-up via touch screen
- the "tension monitor" shows the web tension along the timeline
- power output for electrical brake on board*

*maximum load 2 A

DO 4021

“It is challenging to integrate multiple suppliers into a single system that delivers packaging holistically and consistently”

The case for color management

The challenge of managing color across a supply chain directly correlates to the size and complexity of a business. In other words, the more packaging helps drive a business, the more headaches it can create. The complexity of producing a single product grows exponentially in today's global environment, driven by the hundreds of print suppliers, thousands of pieces of artwork, and varying customers' needs that a company must serve.

Though there are many high-quality print suppliers available who are fantastic at managing color and delivering quality printing to their clients, it is challenging to integrate multiple suppliers into a single system that delivers packaging holistically and consistently. Each stakeholder within a packaging development process – from various print locations around the world, to the team that owns the marketing strategy

– has their own unique, and sometimes competing, set of requirements to be addressed.

In a variety of industries, well-managed color in packaging drives business growth by addressing common challenges found by both marketing and supply chain leaders.

Marketing

- **Execution of creative intent:** Color management can be leveraged to guarantee that the creative intent behind a brand's messaging and promotions is accurately delivered and represented to the customer on shelf. Securing input and alignment from both the creative and supply chain functions early in the color management process helps meet stakeholder expectations of quality, consistency and technical feasibility when graphics are finalized.
- **Maximized value of packaging graphics:** The use of packaging graphics as a complementary media vehicle for brands is increasing. An effective color management process brings maximum value to the brand by exploiting real estate on the package structure. It helps reduce or eliminate common barriers to introducing new artwork (the approval cycles required to implement new graphics, the costs associated with pre-press and tooling, onsite press approval, etc).

Supply chain

- **Efficient print production:** A comprehensive color management system enables quality and makes it possible for print suppliers to deliver within brand category specifications on a highly consistent basis. This allows them to run their presses more effectively, reducing wasted materials, optimizing resource utilization, and improving the printers' bottom line.
- **Reduced cycle times:** The onset of digital workflows and technologies has changed the paradigms of how brands can connect with customers. Color management reduces cycle times and enables the rapid deployment of new designs in market, allowing brands to leverage their graphics to communicate relevant messaging on a more frequent basis.
- **Merge of materials:** Product packaging rarely exists in isolation. It is often accompanied by additional printed inserts and product pieces that all come together to present the brand as a whole. With a holistic color management process the various elements are managed to a consistent color and quality standard with speed and effectiveness.

Taking a broader view

In theory, color management should provide a seamless workflow, but any number of factors can quickly throw the system out of balance: To mitigate the effect of these

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variables, print buyers must drive visibility and collaboration across key stakeholders – in real-time and throughout the packaging development cycle. This is what delivers consistent, reproducible color across a complex supply chain.

Comprehensive color management platforms move beyond a functional perspective to integrate a broader view of the overall workflow, providing a cohesive view. Integrating functional workflows moves projects more efficiently through each discrete component of the process, enabling better communication and faster decision-making, while increasing efficiencies across diverse supply chains.

A fully integrated, cohesive platform allows for the inclusion of proofing, prototyping and color certification work streams to ensure that the color being produced meets brand expectations and can consistently be reproduced downstream, in support of upstream marketing efforts. Solutions that leverage technologies like web connectivity and the digitization of assets help connect multiple stakeholders around the world to facilitate real-time review, course-correction, and approvals.

The colors of success

Color management in complex supply chains can and does significantly impact an organization's bottom line. When executed poorly, variability and inconsistency not

only generate internal costs in materials and resources, but also impact a customer's experience if the package makes it to the shelf. However, when executed well, the benefits realize valuable competitive advantages:

- **Cost effectiveness:** A well-integrated solution provides assurance that global creative decisions and guidelines are commercialized as intended. Gains in effectiveness derive from the optimization of color tolerances to suit individual package and market requirements, the automation of low value-added tasks (project management, repeated approval cycles, etc.), and printer efficiencies generated by synced expectations, faster turnaround times for new graphics, and reduced waste.
- **Increased speed to market:** By establishing expectations and creative intent in the earliest stage of the workflow, the 'cushion' for late stage iterations and revisions can be reduced. Speed to market is also enabled by the real-time capabilities of using an aligned technology platform.
- **Brand guardianship:** An integrated, technology-enabled color management platform allows brands to preserve core assets in a cloud-based infrastructure; ensuring approved color specifications can be securely and consistently reproduced over time and across geographies.

- **Graphic quality:** Complete color management solutions offer reporting tools that help brands identify and close global and/or market-based supplier quality and capability gaps against category standards and specifications; allowing brands to raise quality and consistency over time, instead of designing to the lowest common denominator.

The keys to managing color in complex supply chains are collaboration, communication, and transparency across the entire workflow. By allowing brands to communicate their standards directly with their network of print suppliers early and throughout the creative process, and enabling printers to secure approvals in real time and leverage Big Data reporting, efficiencies are improved and expectations align along the print supply chain. Over time, these efficiencies can add value by delivering a competitive advantage for the brand through packaging, while generating savings due to resource and waste reductions.



About the author

Jay Sperry is the graphics commercialization director for Packaging Technology Integrated Solutions (PTIS), a division of HAVI Global Solutions. He is a graduate of Clemson University.

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