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FLEXIBLE PACKAGING RISES TO NEW HEIGHTS

Concept to Cart

The Expanding Role of Premedia Companies in Package Prototyping

Marek Skrzynski

When the creators of the National Biscuit Co (Nabisco) entered American retail in the 1890s with their first branded and nationally marketed packaging—Uneeda Biscuits—they would never have imagined the kind of convoluted and expensive movement they had just started. Trillions of dollars later, packaging's protective properties have become equally important to its "decoration."

Packaging materials and packaging design merged, birthing a sophisticated weapon in the never-ending fight for total shelf domination. Designers, premedia providers and printers/converters are now full-time participants in this increasingly faster and ever-evolving marketing warfare.

In order to empower "marketing generals" to make smarter decisions, avoid costly surprises and strike the competition with surgical-like precision, premedia companies are expanding their services and increasing their interaction with brand owners beyond what has been understood to be their traditional role.

Using years of converting expertise and the newest visualization technologies, these digital warriors are closing the communication gap between converters and marketers in an attempt to shorten time to market and lower the cost required to bring new products from concept to cart.

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WELCOME TO THE JUNGLE

With more than 45,000 big consumer products companies listed on stock markets, there are millions of recognizable brands surrounding us in the "retail jungle." How can a brand stand out in this increasingly thick and dense marketplace without being eaten by bigger or more agile competitors?

The answer is not a matter of survival of the fittest, but rather part of brand strategy and perfectly executed packaging. This often requires an army of stakeholders who spend precious resources and tons of time to research, design, evaluate, produce and deliver these unique packages promoting the brand's essence.

Over the last two decades, supporting converters and brands with technical consultations and more efficient converting tools became the solo mission of the prepress industry. Lately, that mission is expanding into even more sophisticated areas of design and structure optimization, cost calculation, recyclability, reproduction specs, graphics communication and manufacturing logistics.

Tangible interaction with a physical product stimulates the most intimate of our senses and certainly affects consumer perception. Digital prototypes can simulate many embossing, varnish and texture effects without expensive dies or printing plates.
All images courtesy of CSW Inc

Brands want their package to win among other SKUs screaming for consumers' attention and premedia companies need to offer knowledge and resources to support them across the entire chain of the packaging development cycle.

COMMERCIALIZING MONA LISA

Today's premedia specialists have been mastering the unique fusion of art and science with growing emphasis on predicting outcomes while avoiding any unwanted surprises and costly mistakes. Packaging prototypes are important tools in that process. They are a visual and physical confirmation of the design's intended result. My firm is one such company that has engaged in creating a collaborative and efficient connection between agencies, brand owners and their converters, using state-of-the-art technologies and creativity to deliver a more cohesive, powerful brand image.

Working hand-in-hand with prepress counterparts, visualization specialists—equipped with large-format inkjet devices, digital cutting tables, various laminators, shrink tunnels and thermal sealers—diligently create a realistic prediction of the final package and remove many unknowns from the manufacturing cycle.

But each agency's carefully crafted work—to them, a "packaging Mona Lisa"—needs a reality check, in order to meet the harsh requirement of further commercialization. Built by premedia and visualization specialists, physical prototypes match indistinguishably what will later be produced by the converting equipment at full speed and scale, including custom substrates, accurate colors, foil stamping, varnishes, textures, special enclosures, embossing, etc.

The process is designed to reveal certain aspects of the three-dimensional package that were unforeseen by stakeholders working solely with a flat color proof. This is especially true when it comes to flexible packaging, like bags, pouches and multipacks made u ing high-barrier foil, metalized polyester and clear, or shrinkable, films.

Beside the visual confirmation, the touchy-feely aspect of physical mockups (shape, form, size, closure, texture, etc.) usually leads to additional feedback. Tangible interaction with a physical product stimulates the most intimate of our senses and certainly affects consumer perception. This i one of the reasons why better than 50 percent of us still visit stores before buying things online.

When constructed correctly, mockups are ideal for the focus groups, sales samples, and various evaluations and presentations without investment in costly tooling and press time. Alternatively, inaccurate prototypes can create huge excitement, only to become a big disappointment when the production run doesn't match these falsely set expectations.

Cutting-edge 3D engineering software or 3D scanning is used to create extremely accurate CAD models of primary containers, which could be later translated into physical replicas via 3D printing. On-screen visualization software can further enhance these models with the addition of photorealistic effects like accurate material properties, surrounding environment, condensation, air bubbles, refractions, etc.

When the latter scenario occurs, it reinforces one message: it is essential for premedia providers to understand the converting process for any given packaging segment before attempting to produce accurate prototypes.

VIRTUAL AVATAR

The sudden rise of the internet as a super communication highway has connected the entire world and opened direct-to-consumer channels as a key sales platform for many large and small brands. Subsequent development of e-commerce reshaped the way the marketer interacts with clients, and accelerated the prominence of 3D renderings and their use as a new tool in prediction and evaluation of new sales initiatives.

While physical prototypes hold a proven place in the packaging workflow, they may come with constraints of time, distance of delivery and size of reachable audience. In addition, manufacturing of some prototypes, like shrink-wrapped multipacks, often comes with a need to access the primary containers, which may not yet exist.

Built from wireframe models, CAD drawings, design files, 3D scans or napkin sketches, 3D renderings convey packaging features via photorealistic "hero" shots, multi-view sets, interactive 3D PDFs and/or animations. When the shape and material appearance of the packaging object is translated into a 3D model, unlimited iterations of graphics, lighting, viewpoints and background can be simulated and explored.

Once again, a working knowledge of packaging structure, materials, converting methods and graphic specifications is required to create photorealistic, virtual avatars of the actual printed and converted package. The number of rendered versions and size of the audience is only limited by internet bandwidth and computing power.

CGI (Computer Generated Images) 3D renderings provide a feasible and economical solution. With these tools, premedia service providers integrate complex visualization techniques, similar to those being used in the production of Hollywood special effects, and more typical for the aerospace industry; engineering software in a creative and efficient way.

CGI renderings fuel new efficiencies, facilitate true collaboration and dramatically streamline time to market. In an era where the life of new designs seems just a brief moment between their creation and their recycling, CGI prototypes are the perfect tool for quick market research, on-pack branding, advertising and e-commerce merchandi ing.

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EARLY ENGAGEMENT

Even the most sophisticated color management program and superb digital plate making tools are no longer enough to satisfy demands of the most progressive brands and packaging converters. They are seeking full service with better efficiency and cost reductions gained from the streamlining of the entire packaging cycle.

Digitally savvy brands are now asking for more control over their assets and full access to previously approved print production files, so they can repurpose them for other forms of marketing and/or e-commerce merchandi ing.

Prototyping and visualization tools have evolved over the years to become more agile alternatives to costly and more time-consuming traditional methods, like grid trials or press proofs. De facto, they become a critical part of everyday premedia production and, when engineered correctly, provide instant and realistic feedback before millions of dollars are spent during the commercialization process. Physical

Using advanced algorithms, 3D models of the bottles are virtually wrapped in the simulation software with exact shrink film properties, imported from the manufacturer's specs. The accurately scaled models of the digitally wrapped multipacks are then saved into 3D PDF format for further review and integration testing before progressing down the development pipeline. The final results are indistinguishable from a physically converted version and may not require any further "grid testing."

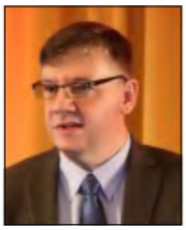
prototypes have been transformed into a virtual form, and are now easily deliverable via email or approval portals, to all stakeholders.

Increased interaction on packaging visualization technologies with the creative sector and brand owners is resulting in new opportunities for the premedia companies to expand their portfolio and engage with clients much earlier and in a more impactful way. Potential savings are not only achieved by preventing costly mistakes or reducing time to market.

At the pre-production stage, visualization tools also offer a new way to optimize graphics (layout, distortion, number of colors, coverage, etc.) and packaging materials (die lines, substrates, ink coverage, special enclo ures, foils, varnishes, etc.).

Thanks to their core competencies in bridging the gap between graphic design and the print production industry, leading premedia companies continue expanding their services way beyond color separations and digital plate making to effectively accelerate brand efforts to bring new products from concept to cart. ■

About the Author: *Born and educated in Poland, Marek Skrzynski has been a packaging aficionado for almost three decades. He broadened his premedia and color management education at Pratt Institute and Clemson University, and currently is the technical director at CSW Inc in Ludlow, MA. Since 1999, Marek has been a frequent speaker and lecturer at industry and academic events. He can be contacted at mareks@cswgraphics.com.*



CSW works with printers and brand owners to make their packaging more efficient and impactful. Family-owned since 1937, it provides packaging premedia services such as production art, mockups, 3D visualization, expanded gamut (EG) color separations, corrugated cutting dies and HD flexo plate making from several production facilities across North America. Over the years, CSW's technical team, led by Marek, has been involved in the development of several game-changing technologies for flexography including: cross modulation screening, flat-tipped digital dots, digital color proofing, packaging 3D visualization and engineered surface texturing for photopolymer plates. For more information, visit www.cswgraphics.com.