

'Commercial' Opportunity?

By Jack Miller

Digital print has taken hold in several areas in commercial printing and book publishing, driven by the need to maximize the return on the investment (ROI) in print. However, packaging printing, book printing and commercial printing are all very different. Books are printed, sold, shipped, inventoried, and often unsold and returned. Print-on-demand has proven to be an effective way to reduce waste. Variable data printing (VDP) and personalization have been shown to increase the effectiveness of direct mail.

Can these value propositions apply to digital print for packaging? If so, why haven't we seen more digital print in packaging? And is there an opportunity for commercial printers in digital packaging?

Packaging includes metal and glass containers, corrugated, folding cartons and flexible packaging. Corrugated also includes litholam, where a paperboard top sheet is printed, generally offset (litho), and laminated (lam) to corrugated for point-of-sale displays and cartons. The litholam top sheet is typically a coated cover or folding carton grade of paperboard. Packages also have labels, of course, and labels have seen the greatest development in digital print for packaging.

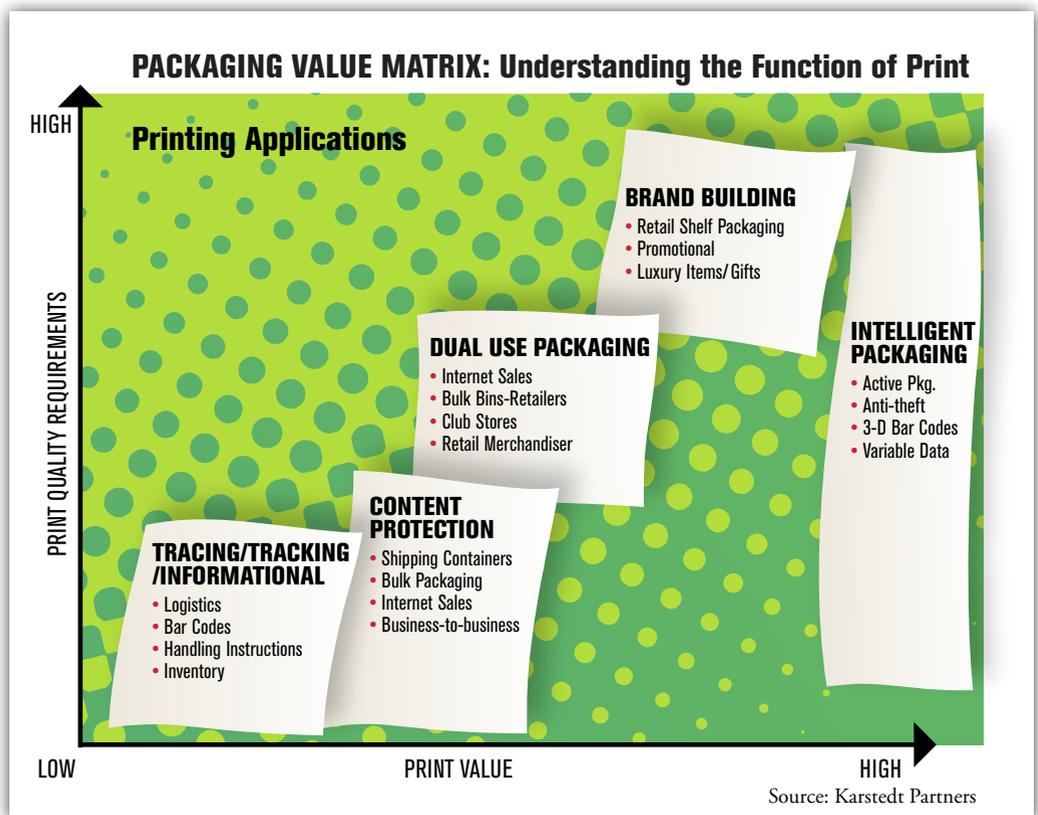
Mark Hanley of IT Strategies explains, "The value proposition is understood to be very high by those who know. In the last five years, the market has fragmented, and one product may be sold in five different versions. This can lead to five runs of 10,000 rather than one run of 50,000 and, for some sub-segments, 10,000 is near the breakeven point."

Kevin Karstedt of Karstedt Partners advises that, according to their new report ("Is Digital Printing Part of Your Brand or Operational Strategy?"), "the ultimate success or failure of digital printing in the packaging market depends on how well the three critical legs of the supply chain work together: Consumer Product Company (CPC), Print Service Provider/Converter, Technology Developer/OEM." Based on more than 400 interviews with a variety of CPCs, he concludes that "there is a meaningful business opportunity for the concept of digital printing among a broad cross-section of market and customer segments," adding that "approximately 50 percent of respondents note that their customers demand more customization of products and services."

Karstedt also points out that packaging printing can add value in several ways, including product protection, track and trace, brand protection, marketing and brand building (see chart below).

A Value Proposition Disconnect

While the potential is understood by more forward-thinking brands and converters, Hanley of IT Strategies notes that variable data—the real value and real future of digital—has not taken hold yet. So far, the demand for variable data has largely been confined to label and niche opportunities. All too often, the value proposition is not well understood: digital people don't know about packaging and packaging people don't know about digital.



Packaging must protect the product, convey information and sell the product. This means that package printing is often more demanding than commercial printing, and a number of technical factors have limited the use of digital print for packaging. Since consumer packaging must sell the product, this means high ink coverage. So far, high-speed inkjet has been problematic beyond 40 percent ink coverage.

Substrates such as coated papers, heavy-weight paperboard and flexible packaging films also present different challenges for printing.

"Inkjet print heads can be mounted on any traditional press and make it a digital press."

DON BURNS

Digital presses at 20", or even 30", are wide enough for labels, but not wide enough for most folding cartons or litholam. And, many digital presses cannot handle paperboard as thick as 18-pt. to 24-pt.—key calipers for folding cartons. Moreover, most digital presses are not designed to be compatible with diecutting, folding and converting, and do not offer in-line converting systems.

For folding cartons and litholam, applications have generally been limited to niche products and test markets. Kevin Waldvogel, print sales with New Berlin, WI-based The Printery, now part of Consolidated Graphics, explains: "Very often buyers don't understand the whole supply chain total system cost."

Labels have taken the lead and demonstrated the potential. Track and trace, brand protection, and warehousing and logistics savings have driven the value proposition. Some of these factors could potentially apply in folding cartons and other packaging, but the small format of labels makes them more suitable for inkjet, at least for now. However, because of the requirement for high-quality graphics and high ink coverage, many inkjet labels are printed with UV inks or solvent-based inks, and this can be an issue for packaging where these inks come in contact with food.

Peter Chalmers, product manager at Primera Technology, advises that "there are a number of applications for inkjet labels, including regional markets and seasonal products. A lot of small companies are participating: a restaurant selling its hot sauce, organics, etc. He adds that these applications are driven by short-run, print-on-demand and less waste rather than variable data.

Primera sees opportunity with RFID; in 2012 Primera introduced the world's first on-demand RFID printer for printing and encoding onto foam-backed RFID tags utilizing high-resolution color inkjet technology. "Inkjet technology is ideal for printing onto foam-backed RFID tags," adds Mark Strobel, Primera's vice president of sales and marketing.

Hybrid Inkjet Already Well-Established

Don Burns, business development director at Kodak Digital Printing and Enterprise, reports that 14x36" is now the largest sheet size for the NexPress digital press. "With maximum thickness at 400 microns (16-pt.), we have commercial customers who do test packaging and very-short-run folding cartons." He adds that Kodak's hybrid inkjet systems have been used in labeling for more than 10 years. "Inkjet print heads can be mounted on any traditional press and make it a digital press."

Burns notes that Kodak has expertise with inks and security systems, as well. Kodak has a licensed program with overt and covert indicators that can be printed flexo, offset, thermal transfer or inkjet. These indicators respond to a specific wavelength of light for brand protection and anti-counterfeiting. Print can be variable, and can be done with Prosper and Versamark inkjet heads. He adds that for more than 25 years they have used Versamark print heads for lottery tickets, and that up to 90 percent of all lottery tickets use Kodak technology.

At HP, the focus on packaging is with HP Indigo digital presses. Christian Menegon, worldwide business development manager at

HP Indigo, reports that "digital printing is not as well advanced in packaging as it is for labels because of the specification of the machines we had on the market until now. Digital presses were not the right size for the packaging applications where the print is the package." However, Menegon notes that "our new machines that we showed at drupa close that gap: 30" wide for web, and B2 format (750x530mm) for sheets." The Indigo 30000 will print on substrates up to 600 microns or 24-pt.

Menegon confirms that "variable printing is rare in packaging. It can be used as a marketing gimmick, for security and authentication, or for track and trace." Initially, at least the main value proposition is quick turns and cost reduction. Cost reduction comes in two forms: less waste and setup cost in short runs (for the printer), and supply chain savings in inventory and logistics (for the brand owner).

Timely Tie-in with Toy Story Characters

A good example is shampoo from L'Oréal Kids. An advertorial in PackageDesignMag.com describes the case study: "L'Oréal produced limited edition, shrink-wrapped bottles with themes tied to newly released children's movies." L'Oréal partnered with Sancoa International in Lumberton, NJ, and its HP Indigo WS6000 digital presses.

The Limited Edition has four different bottles that feature the popular Toy Story characters—Buzz Lightyear, Woody, Jessie and Rex. "We thought digital would be too expensive for our long run lengths," says a representative from L'Oréal. "While there was a per unit price increase, when we did a cost/pricing analysis, the total system cost was better than for traditional processes. What's more, we got the quality we needed, and our lead time was cut dramatically so that we achieved faster time to market."

Landa Digital Printing says that their Nanographic Printing press solves most of the problems with digital packaging: size, speed, ink coverage, print quality and regulatory aspects. Sharon Rothschild, Landa's product line and segment manager for packaging, explains that the Nanographic Printing press lays the water-based ink on a blanket, which transfers the ink to the paper. This avoids the problems with large volumes of water going directly onto the paper with more conventional forms of water-based inkjet.

Rothschild believes there are many advantages to digital packaging, not least of which is that it can be a tool for Customer Relationship Management (CRM).

The first Landa B1-size sheetfed presses will be delivered in late 2013 to beta customers. They do have "hundreds of letters of intent, with a significant part for the packaging presses shown at drupa." She says there is a lot of interest from packaging converters for applications including flexible packaging, folding cartons and labels. The Landa press will use ordinary, untreated paper and plastics.

Océ also has a new digital packaging press: the InfiniStream, which is specifically targeted at the folding carton segment. In a presentation at a drupa followup event in Poing/Munich, Germany, Roland Stasiczek, Océ director of marketing for InfiniStream

"The new liquid toner technology enables variable imaging on standard carton board, with thickness up to 600 microns (24-pt.) and with the look and feel of offset output."

ROLAND STASICZEK

technology, highlighted the need for increased versioning, shorter turnaround times and rising demand for personalization.

He also noted track and trace, CRM and brand protection. Stasiczek reports that “the new liquid toner technology enables variable imaging on standard carton board, with thickness up to 600 microns (24-pt.) and with the look and feel of offset output.” A modular print tower allows up to seven colors on a 28"-wide web web, resulting in up to 14,400 B2 sheets or 7,200 B1 sheets/hr. The first installations are planned in 2013 and commercial availability is planned throughout 2014.

Digital Answers Short-Run Label Needs

Carl Joachim, senior partner of Caslon & Co, a consulting firm promoting adoption of digital print and innovation in packaging, advises that brand owners are rapidly seeing the advantages digital brings to packaging as part of the marketing mix. “Manufacturers and packaging converters are all eyeing short-run, market-specific packaging as the ‘next big thing’ in packaging,” he reveals.

For example, ProLabel Inc., a Miami-based manufacturer of high-quality labels founded by Ramon Fernandez in 1995, recently added a Xeikon 3030 digital press to accommodate a growing demand for shorter runs. ProLabel’s customers needed shorter label runs produced in quicker turnaround times and at lower cost.

“In addition to meeting current customer needs, short-run labels represented a significant growth opportunity for Roman Fernandez’ business, one that he was eager to capitalize on. The flexographic technology that ProLabel had initially built its business on required much longer runs to be cost-effective, and longer lead times, compared to digital technology,” according to Joachim.

Sharon Eucce, sales and marketing manager at Salt Lake City-based Utah Paper-box (UPB), advises that UPB is a major producer of litholam and folding cartons. UPB looked into digital at drupa 2012, with the idea that it would be useful for customer presentations and short-run and regional jobs, but “hasn’t found anything that fits its needs.” Eucce says her firm seeks offset quality and wants the same stock and the same suppliers as for offset papers.

One issue is format: Most of their customers buy the large-format boxes that they print offset. She adds that their converting is not always cost-effective with digital and would require a separate workflow. They need coating, finishing, folding, scoring and gluing, and digital equipment doesn’t do it. “It is inefficient at best to put small digital packages on large finishing equipment.”

Montreal printers Pazazz and PDI (Phipps Dickson Integria) print folding cartons and litholam, but generally print them offset. Warren Werbit, Pazazz president, reports that Pazazz does commercial printing, plus displays, folding boxes and setup boxes. He adds that Xerox is promoting digital packaging, and Pazazz uses an iGen for digital printing, but the 14½x20½" sheet size limits them to smaller packaging and niche opportunities with folding cartons.

He also reinforces the message that digital presses are generally not compatible with the folding, diecutting and gluing operations that packaging requires. Pazazz often prints short runs of larger formats offset, and partners with converters. Werbit concludes that

he doesn’t yet see the need for short-run digital packaging, “although a lot of people are blowing smoke.”

At PDI, a new 26" NexPress can handle calipers to 18-pt. and is big enough for some packaging applications, but most packaging is still produced offset. They see no demand for variable data for packaging, so the only rationale for digital would be short runs.

Louise Kralka, vice president of sales, advises that PDI also does litholam with a box company: they print, and the box company laminates. Printing is all done on a 56" offset press, as most displays need the large size. Kralka notes that she does not see a need for short-run or variable data printing for litholam, and adds that most litholam is well in excess of 40 percent ink coverage. This becomes problematic for water-based inkjet. They prefer the NexPress because “it offers a much wider range of substrates that can be used to obtain high-quality results.”

Web-to-Print Workflow Opportunities

Landa’s Rothschild does see the need for variable data emerging, noting, “Packaging is always on the cutting edge, and will continue to be. The opportunities go beyond cost reduction, and even beyond VDP for security, brand protection, track and trace or RFIDs—it is in producing high-value pages, new pages and new business.”

Rothschild adds that there is even more potential with Web-to-print. “Web-to-print has changed the world of commercial printing during the last few years, and is expected to do the same for packaging.” Customers can order from a template. With digital packaging print there is no prepress, setup is automatic, and versioning is cost-effective. She adds, “One small customer has 30 versions.”

Now that it is possible to order products online, companies can get information about their customers, and build brand loyalty with personalized packaging. Companies as diverse as Lego, Heineken and Kiss My Face have found that when this is combined with social networking via Twitter or Facebook, the marketing effects can be powerful. Companies are learning the potential for enhanced CRM.

The potential for digital packaging is great, and while we have noted that there are many obstacles, these can all be overcome. Commercial printers would also like to get into packaging, but commercial shops have some additional challenges. Commercial printers generally do not have the finishing equipment: folding, scoring, diecutting. Perhaps more significant, brand owners generally look to box makers for boxes, not commercial printers.

As the value proposition becomes better understood, digital print can be expected to make greater and greater inroads in packaging. If commercial printers can overcome the obstacles, it will be worth the effort. **PI**

About the Author

Jack Miller, known as the Paper Guru, is principal consultant at Market-Intell, a supplier of strategic consulting and “Need to Know” market intelligence in paper, print and packaging. Formerly, Miller served as the senior consultant, North America, with Pira International, and was also director of market intelligence at Domtar. He can be contacted by e-mail at jack.miller@market-intell.com.

“Web-to-print has changed the world of commercial printing during the last few years, and is expected to do the same for packaging.”

SHARON ROTHSCHILD

“It is inefficient at best to put small digital packages on large finishing equipment.”

SHARON EUCCE