A Tale of Two Printers

Continuous evolutions in digital technology allow for high-quality runs that both complement and compete with offset.

By Cassandra Carnes

The advantages of digital print are often touted with a focus on technology's ability to print short runs economically. However, even if the technology allows for one-off runs, it isn't always the case. Printer service providers (PSPs) of all sizes and capacities need reassurance that their digital press investments are in it for the long run. It is important that these presses are able to provide beyond short, variable runs. And they do; many digital presses report monthly duty cycles into the millions.

The demand for variable, high-volume run lengths continues to grow as the adoption of such technologies takes hold. With a new generation of consumers emerging, personalization, relevancy, and design are imperative to success. We find that our run lengths are increasing because of variable data printing (VDP). Producing unique, one-to-one pieces necessitates that the job be printed digitally no matter what the run length, explains John Meyer, director, Rochester Institute of Technology (RIT), Print and Postal Hub. Quantities that would typically exceed the breakeven point between offset and digital don't have anywhere to go besides digital. This means PSPs and digital print equipment vendors must adapt their technology to accommodate customer needs.

Tom Ling, president, Advantage Mailing, agrees with this perception. We've seen a greater demand for high-volume digital print and consistently print million-piece jobs on our digital presses. I think there will be continued growth in the digital market as the cost of digital color becomes more affordable.

In 2008, DPS published Madison Advisors the State of the Industry: Digital Document Communications Market Study, which solicited DPS subscribers that fit the specified criteria of digital document owners. The study shows that 55 percent of respondents already own high-speed digital color and 27 percent plan on obtaining it within the next two years.

Meyer and Ling are two examples of industry experts/PSPs of different business modes/using digital and offset technology daily to best satisfy their company and customers. We look deeper into their operations to see where high-volume digital print fits.

Digital: A Fit for Many High-Volume Scenarios

RIT's Print and Postal Hub is the institute's in-plant print facility. Open since 1969, the university department operates in three locations on the RIT campus in Rochester, NY. Meyer says the HUB Central location functions much like a commercial print shop, producing offset and digital print and processing daily and bulk mail for the campus. Crossroads HUB, another of its locations, is a walk up, on demand counter for digital production print, which also produces the daily transactional mainframe data print for the university. NRH Post Office is the department's third location; it features a contract postal unit that services resident dormitories and apartments for daily mail and package distribution.

Instead of an annual revenue to report, RIT's in-plant operation is planned to breakeven as part of the overall budget. The school is the seventh largest private university in the U.S., boasting 16,500 students. The in-plant also services a variety of off campus customers, such as small design and advertising firms and print brokers.

For digital color production, RIT employs a Xerox iGen 3 and a Xerox DC7000. For wide format, the company houses a Hewlett-Packard (HP) 5500 and Xerox DC12. In addition, RIT Print & Postal Hub offers digital B&W services with a Xerox NuveraE A and WC22. For offset, RIT uses a Heidelberg SM-74, Heidelberg QM-46, and Hamada 3985. Its mailing equipment consists of several Pitney Bowes machines, including a DM1000, DM900, Inserter, and Arrival System. In addition, a Videojet Inkjet System is used for addressing.

One unique example of a variably produced, high-volume print run comes from RIT's ImagineRIT Reporter magazine, a project produced on the plant's iGen 3. Reporter magazine is a weekly, student-run publication. For the annual RIT Innovation Festival, magazine staff based an issue on the Me Generation, which resulted in 10,000 unique copies.

Using Adobe InDesign, XMPie, and 431 portrait images, the files were programmed so there would be no repeat images on any issue, explains Meyer. The pages of the magazine containing variable data/the front and back cover along with pages two, 20, and 22 were printed at the RIT printing HUB on the iGen. All other pages were printed on an offset web press located at RIT in the Printing Application Lab. The magazine combined VDP pages with static pages, each printed using separate methods, says Meyer. This resulted in 10,000 unique pieces.

Due to large image file sizes, some individual photos totaling up to 28 megabytes RIT automated the PDF.
atomization. This was done through setting up a script using Adobe Acrobat and letting it run as a background process, says Meyer. All 40,000, unique two-page spreads were processed, optimized, and printed during a ten-day time frame.

Our objective for this project was to support the magazine article based on the idea of the Me Generation, create a unique solution for presentation at the RIT Innovation Festival, and to engage the RIT community in social networking, says Meyer. All 40,000, unique two-page spreads were processed, optimized, and printed during a ten-day time frame.

To add to the personalization and engagement factor, RIT placed a unique issue number on the front cover so students could contact each other through an anonymous Web site email and swap covers if they wanted a certain copy. The distribution of the magazine created a frenzy on campus as students searched for the issue with their photo or someone they knew on the cover, says Meyer. The response was phenomenal, with several thousand copies of the magazines picked up in a matter of two to three hours.

**Advantage Mailing**

Advantage began in 1994 providing mailboxes and low-volume direct mail services. Since then, the company grew by more than 100,000 square feet in two locations, Riverside and Orange, CA. In 2007, Advantage finished the year with over $16,000,000 in sales estimates to generate over $25,000,000 in 2008. The company offers traditional sheet and web offset, digital color laser, and B&W laser print services.

The company considers itself a leader in digital print technologies and operates an entourage of equipment to back up the statement. We utilize the brand new Xeikon 8000 digital color press in addition to the Xerox iGen 4, two iGen 3s, and an HP Indigo 7000, says Ling. They find the implementation of the Xeikon 8000 digital web press particularly key to the ongoing success of the business. The 8000 is an upgrade from the 5000 for Advantage and allows the company to provide its customers with high-quality, visually impacting, and personalized materials. These top-of-the-line devices are only a portion of Advantage's digital line up. The company also uses a variety of offset equipment, including several sheet and web presses. For finishing, the company offers offline UV coating and inline aqueous coating. On the mailing side, Advantage has several Bell + Howell inserters and three high-speed Pitney Bowes Flowmaster inserters. For addressing, Advantage uses the latest technology from Kodak/Scitex, Buskro, and MCS.

At Advantage we understand the need to offer cutting-edge technology, says Ling. Each of our machines offer a range of options and features. With our array of equipment we are able to print on a variety of substrates and sizes, whatever the project requires, we can handle it.

With a focus on responding to customers' needs, Advantage designed several software applications such as AdvantageTrak, a mail tracking system to complement their mailings. We are a unique organization and strive to be that way for our customers every day, adds Ling.

Advantage produces a variety of products on its digital equipment, including variable postcards, complex self-mailers, and letters. We can do anything from a few variables to hundreds of variables and images for any one project,

explains Ling.

The company currently runs two shifts in all departments, however they can run up to three shifts and work overtime if necessary to complete the job.

**The Breakeven Point**

The breakeven point where a printer would choose to use offset versus digital, or vice versa, it not as simple as a number. With the advantages of digital catching on, it is necessary to use digital in some instances where traditional offset isn't an option.

Another consideration is warehousing space, which is often brought up when discussing digital book production. From an in-plant perspective, this is also a valid argument for digital. RIT shares that they've run into the situation where jobs previously printed in large quantities and kept in inventory are now broken up into smaller, more frequent jobs to reduce warehouse costs.

Advantage Mailing describes its typical print run as varied. The digital presses typically run between 4,000 and 10,000 pieces at a time, the offset presses run an average of about 30,000 pieces, says Ling.

The combination of offset and digital is a common theme for PSPs. RIT offers a breakdown of typical run lengths. In an offset 20x28 size, typical run lengths fall between 10,000 to 20,000 sheets. A typical 11x17 offset run ranges from 250 to 10,000 sheets. For four-color digital, 12x18 size run lengths are 1,000 to 7,500 sheets. And, RIT's digital B&W typical 8.5x11-inch run lengths are 1,000 to 15,000 sheets.

High-volume print appears in many forms: transactional and TransPromo statements, textbooks, and manuals. However, it's a growing trend to add variably produced items such as direct mail featuring variable elements including personalized URLs to the list of digital runs produced in high volumes.

**What's Next?**

With the technology on hand, PSPs are always looking to improve and expand.

"We invested in XMPie software and saw immediate results from the personalized recruitment project for attracting perspective students," says Meyer. But that is a different story.