

Inkjet and the Book Market

ANALYSIS

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INTRODUCTION

High-speed inkjet printing systems have had a huge impact on the book printing market. At the same time, external factors ranging from the economy to the pandemic are making publishers rethink how they handle their printed books. The result is an even more competitive market for book printers who seek a variety of ways to keep costs low and serve their customers better, all while remaining profitable. This raises the question of where inkjet printing fits best in competition with offset. Thanks to its research with book printers over the years, Keypoint Intelligence has much to say about trends in the book market for print service providers (PSPs).

TODAY'S BOOK PRINTING MARKET

The book printing market has changed significantly over the past few decades. Short-run and on-demand printing technologies, combined with digital document repositories and advanced workflow techniques, have enabled book-of-one and just-in-time manufacturing processes that allow publishers to rethink how they fill their supply chains.

One key piece of this evolution has been the introduction of high-speed color inkjet printing systems that far exceed the production capability of toner-based digital systems. As book printers leveraged the capabilities of these production inkjet systems, they told us about the impact that these devices were having on the market in regard to true on-demand production. They also talked about how book printers and publishers have been adapting to a new reality in which print is fighting to remain relevant in a world whose reading habits have been impacted by the Internet, e-books, and other digital delivery methods.

BOOK PRINTING PHILOSOPHIES

There is a remarkable split in implementation philosophy depending on the printing technologies that a PSP owns. Specifically:

- ◆ **Inkjet and offset:** Sites that have one or more high-speed cut-sheet or roll-fed inkjet printing systems and one or more offset presses generally maintain that they need both technologies to serve their customers effectively. They can run their offset devices very efficiently down to quite low run lengths (~350 books), but also value their ability to be cost-effective using offset for longer runs of 5,000 or more.
- ◆ **Inkjet only:** Some sites using inkjet printing systems for books have either eliminated offset entirely or plan to do so soon. They cite the production capability of inkjet, its operational simplicity, and the ease of finding and training operators (compared to offset). They see their customers' run length needs declining, and believe that their inkjet systems will serve those

changing needs well. They happily cede longer run work to their competitors—they want no part of the long-run market and instead are focused on book-of-one, short runs, just-in-time manufacturing, and efficient warehousing services. Some of these inkjet-focused sites are just waiting for their litho press operators to retire before mothballing their offset devices. They worry about getting parts for their offset presses. In addition, training the next generation of offset press operators is a challenge they don't wish to face. Repeatedly, the owners of these sites said that they see inkjet as the future.

- ◆ **Offset only:** Book printers that only have offset devices will often point to the cost of the consumables on inkjet systems as the reason they have not implemented them. These sites do not see a place for inkjet and are happy to let other providers handle shorter runs. That being said, automated offset processes have allowed them to be quite efficient, in some cases (depending on the book's specifications) remaining cost-effective for runs as low as a few hundred books.

CROSSOVER POINTS

Two questions on the minds of many PSPs are:

- ◆ At what run length can offset compete with digital print (either inkjet or toner)?
- ◆ At what point does a production color inkjet system stop being competitive with offset?

Determining a true crossover point involves a lot of different variables, the most important of which are page count, book size, paper, binding type, and the use of color. For argument's sake, though, let's assume we're working with a generic 6" by 9", 250 page, perfect-bound book with a color cover and black & white text block and standard paper stocks. Typically, PSPs with production color inkjet systems report that they are unlikely to handle run lengths much higher than 3,000 to 5,000 copies. That is around where offset becomes most cost-effective, yet automated offset technologies (such as Timson Zero Makeready presses) can be very competitive down to around 300 to 400 books.¹

Run length in the book market assumes that one is printing multiple copies of a book to be shipped to a warehouse or a distribution channel. That is not the case with book-of-one workflows. Believe it or not, some PSPs that offer book-of-one capabilities report that their average run length is in the range of one to two copies! In general, though, short runs printed on inkjet- or toner-based digital systems tend to average in the range of 100 to 250 books.

In addition, PSPs with multiple print technologies have to make decisions about which device to run a job on based on system availability, suitable paper stocks, and cost-competitiveness. At times, jobs may be run on the less competitive device solely because the more competitive device is unavailable for one reason or another. Also, due to the high price of inkjet ink compared to offset ink, area coverage also comes into play as an important cost factor.

THE IMPACT OF COVID

The pandemic had a large impact on the book printing market, particularly related to foreign competition. Because book publishers had more difficulty using international PSPs due to transport and supply chain issues, demand for local PSPs increased. This put strains on overall market capacity, but many PSPs increased their number of shifts and their use of overtime to meet the demand.

Another important impact of this is that the pandemic presented an opportunity for PSPs to move the focus from the low unit cost (of their foreign competitors) to a broader view of cost that includes the impact of inventory, warehousing, and distribution. It also put a spotlight on turnaround time. PSPs are using the lessons from the pandemic to promote services to their publishing customers like true print on demand, just-in-time manufacturing (combined with efficient warehousing as needed), and distribution capabilities.

¹ Note: Decisions on run length tend to focus on the printing of the book block. Printing a book cover is largely the domain of cut-sheet toner or inkjet-based device, depending on run length. B2 format or long-sheet-capable digital systems facilitate the production of book covers due to the length of typical book covers.

Today's book printers consider the following as vital factors for their publishing clients:

- ◆ Being able to offer a single cost point for a book regardless of the quantity printed.
- ◆ Using print on demand / just-in-time manufacturing to make it so that the publisher's cash is not tied up in inventory.
- ◆ Having a "Goldilocks philosophy" so they can get the run lengths "just right" for publishing clients.
- ◆ Enabling publishers who outsource their print to them to take advantage of warehousing services as well.
- ◆ Promoting on-demand and just-in-time processes to allow books to be ordered by and delivered to bookstores with no touches from a publisher or distributor.

CONCERNS ABOUT INKJET

Alongside the inkjet opportunity, there are some concerns:

- ◆ **Market oversaturation:** Some book printers are concerned that the market for inkjet print production will become oversaturated. They have strong confidence in their warehousing and distribution efforts, but they are more concerned about the health of the printing and finishing sides of their businesses.
- ◆ **Eco-friendliness:** Book printers acknowledge that book-of-one-work tends to be "carbon heavy" compared to longer run book production, in part because the shipping costs are focused on fewer copies.
- ◆ **Increasing the volume printed on digital:** Driving up the amount of color print, as well as better leveraging of production digital print resources, are important to many book printers. For some book printers, particularly those with offset presses, digital print may make up a relatively small portion of their overall output. They wish to increase this percentage.
- ◆ **Moving back to a cost-per piece focus:** Book printers are concerned that competition with foreign competitors encourages publishers to look only at price and that some work that remained in the U.S. during the pandemic due to supply chain issues may shift back abroad. This would damage the gains that inkjet made during the pandemic.

- ◆ **Paper flexibility:** Inkjet's ability to print on a variety of standard papers is key to the book printing market. Coated paper has been a challenge at times. The ability to print on light papers can be a differentiator for applications with high page counts.

OPINION

In a market that has experienced significant technological and end-user changes over recent decades, it is encouraging to see how book printers have streamlined their operations and expanded their services, facilitated in large part by their ability to automate through software and digital print processes. Today's publishers, along with the consumers of their content, are the beneficiaries of these capabilities that build on efficient short-run, on-demand, and just-in-time production with document repositories that allow efficient ordering and fulfillment, with warehousing services as needed.

With the growth in inkjet in mind, we recommend the following:

- ◆ **Focus on automation.** Workflow software, whether off-the-shelf or internally developed, facilitates everything from job acquisition and submission to shop floor production all the way through to warehousing and fulfillment. Connecting previously siloed efforts can have a huge impact.
- ◆ **Don't overlook finishing automation.** Whether robotics or other possible solutions come into play, there is much room for improvement in this area.
- ◆ **Be eco-friendly.** PSPs serving the book market need to be environmentally conscious, particularly related to issues of carbon neutrality and the composition of inks and other consumables.
- ◆ **Expand your services.** Book printers have taken significant steps toward expanding their warehousing and fulfillment capabilities as part of their short-run, on-demand, and just-in-time production digital printing services. This type of production is a perfect match for digital print.
- ◆ **Promote the advantages of production digital print.** The pandemic forced publishers to understand the important advantages of high-speed inkjet by taking away easy access to cheap foreign competitors. This was a prime opportunity to integrate one's digital print capabilities into a publisher's business model. Don't stop promoting these indispensable services.

- ◆ **Look to the future.** Some publishers will want to leverage artificial intelligence to make innovative use of their content. What can PSPs do to help them achieve that goal? Flexible support through a content management system is a good starting point.

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