

The Production Inkjet Application Revolution



BILLERUD

Canon

CANON SOLUTIONS AMERICA



Table of Contents

- INTRODUCTION 3
- KEY FINDINGS..... 4
 - Inkjet Delivering Significant Benefits..... 4
 - Press Investment Trends 5
 - Share of Work by Press Type, Today and in Two Years 5
 - Print Application Production Migration Trends..... 5
 - Print Customer Trends Driving Production Inkjet Demand 6
 - Bills and Statements Customers Want Color and Customization 6
 - Book Customers Value Digital Printing..... 6
 - Inkjet Adding Value to Catalogs and Publications 6
- INKJET DELIVERING SIGNIFICANT BENEFITS..... 7
- INKJET PRESS INVESTMENT TRENDS 8
 - Reasons for Not Investing in Inkjet 8
 - Reasons for Investing in Inkjet 9
- INKJET PRESS SELECTION FACTORS 10
 - Production Inkjet Investment Advice from Adopters 10
- PRINT WORK MOVING TO PRODUCTION INKJET PRESSES 11
 - All Respondents Report Movement to Inkjet..... 12
 - Respondents With Inkjet Report Work Moving to Inkjet..... 12
- APPLICATION MIGRATION TRENDS 13
- PRINT CUSTOMER DEMANDS DRIVING INKJET VOLUME 17
 - Inkjet Delivers Value to Print Customers 19
- TRENDS IN KEY INKJET PRINTED APPLICATIONS 19
 - Adding Value to Transactional Documents..... 19
 - Offers Book Publishers Agility and Profitability 21
 - Enhancing Publications and Catalogs 23
- CONCLUSION..... 24

The Production Inkjet Application Revolution

Inkjet is delivering significant business results to print providers, enabling application migration, and addressing new customer demands.

INTRODUCTION

Production inkjet printing is delivering on its initial promise of being print's future. Many factors have enabled production inkjet to become a disruptive force of positive change. Steady advances in press technology, substrates, inks, and print customer acceptance have expanded adoption and application possibilities. Today, production inkjet presses are enabling print providers to improve their business results, produce a wide array of applications, and meet ever changing print customer requirements. Many print providers are making additional investments in inkjet presses.

The evolution of production inkjet on many fronts, including speed, productivity, quality, substrate compatibility, format options, short-run capabilities, and versioning/variable data choices are enabling an application revolution. As more applications migrate to inkjet presses, print providers with those devices are experiencing cost savings, labor efficiency, increased revenue, and improved profitability.

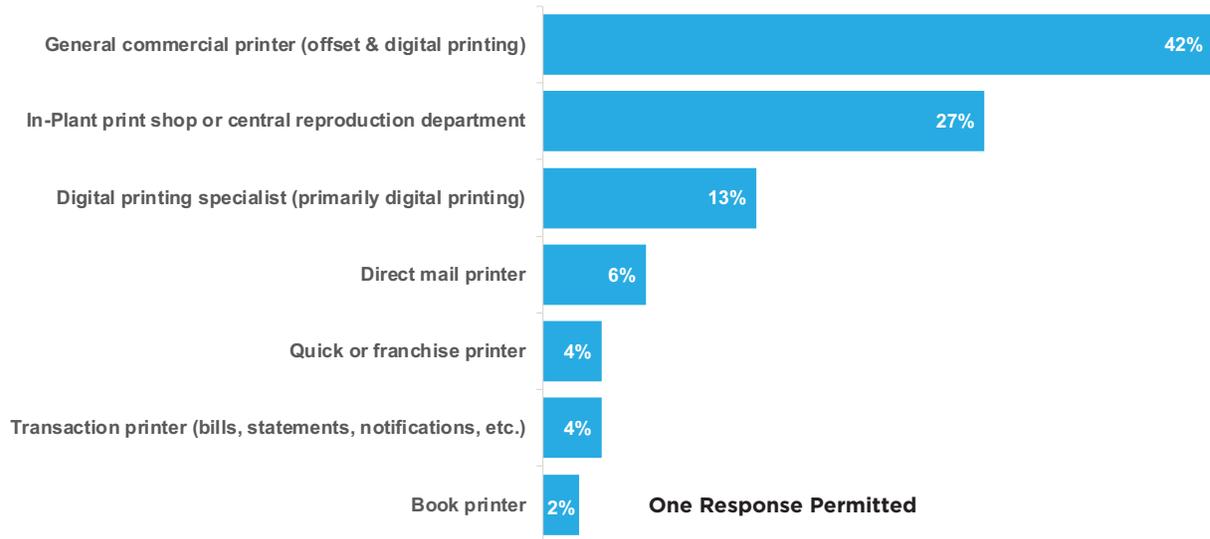
NAPCO Research (a unit of NAPCO Media LLC, the parent company of *Printing Impressions* and *In-Plant Impressions*) conducted a research study to quantify the value production inkjet printing is delivering to print providers, assess the migration of print applications to inkjet presses, identify adoption drivers and barriers to inkjet investment, and define print customer requirements driving demand for inkjet printing.

The research study is based on two separate online surveys deployed to print service providers and organizations that purchase print. In addition, in-depth telephone interviews were conducted with print providers that invested in a production inkjet press. The findings presented in this report are based on the following survey and interview responses:

- 219 print providers (See *Figure 1* for distribution of provider types) of which 118 (86 print-for-pay establishments and 32 in-plants) invested in production inkjet presses
- In-depth interviews with five print providers that invested in production inkjet
- 167 communication buyers and influencers involved in purchasing or influencing print

Figure 1: Print Provider Respondent Base

Q. Which category best describes your company's PRIMARY business?



n=219 Print Providers

Source: The Production Inkjet Application Revolution, NAPCO Research 2024



Overall, all survey respondents report operating production inkjet presses, on average, for 5.3 years, with print-for-pay providers using inkjet for 5.9 years and in-plants 3.8 years.

KEY FINDINGS

Inkjet Delivering Significant Benefits

- Respondents report production inkjet delivered significant efficiency and profitability benefits, citing, on average, a 3.9% decrease in paper costs/consumption, a 4.9% decrease in production waste, and an 11.8% increase in profits.
- When asked to describe the influence of previous obstacles associated with printing work on production inkjet, respondents designated challenges in selling inkjet applications, paper, workflow, output quality, finishing, pricing, training operators, and press downtime/reliability, mostly as not a challenge or a slight challenge.
- Over half of survey respondents report operating production inkjet presses. The high percentage of print providers that operate inkjet presses is reflective of the technological advancements that have made it an attractive, versatile, highly productive, and more accessible technology.

Press Investment Trends

- Respondents with production inkjet presses report the following breakdown of capabilities: 47% operate sheetfed inkjet presses, 30% operate webfed inkjet presses, and 24% operate both sheetfed and webfed inkjet presses.
- The top reasons respondents did not invest in an inkjet press are current equipment serves their organizations' needs (52%), too expensive (40%), adoption/implementation costs (34%), don't see the ROI (31%), and quality doesn't meet customer needs (22%).
- When it comes to investing in production inkjet, respondents identified their top reasons as increased productivity (45%), meeting customer demands for shorter runs (43%), shorter turnaround (39%), moving offset work to inkjet (36%), lower cost of ownership compared to toner (35%), migrating toner work to inkjet (35%), and printing more personalization/variable data print work (35%).
- When selecting a production inkjet press, print providers with inkjet presses rated output quality (53%), post-sale press vendor support and service (53%), uptime (50%), and running costs (48%), as extremely important considerations.

Share of Work by Press Type, Today and in Two Years

- All respondents participating in the survey, including those that do not print on production inkjet presses, report dry toner produces the largest share of work (39%), followed by offset (25%). In the next two years, respondents expect declines in the percentage of work printed on dry toner (-5%) and offset presses (-12%) and increases in work printed on production inkjet web presses (5%), inkjet sheetfed presses (23%), and liquid electrophotography presses (17%).
- Print providers with inkjet presses report dry toner produces the largest share of work (25%), followed by offset (22%) and production inkjet web (21%). In the next two years, respondents with inkjet presses expect declines in work printed on dry toner (-2%) and offset presses (-14%) and growth in work printed on production inkjet web presses (2%), inkjet sheetfed presses (11%), and liquid electrophotography presses (17%).

Print Application Production Migration Trends

- Over two-thirds of print providers report transferring toner work to inkjet presses to produce financial/legal materials (82%), bills/statements (74%), ballots (67%), and event materials (67%).
- Over half of print providers transferred work from toner devices to inkjet presses to produce documents/manuals (59%), business forms (57%), catalogs (56%), and training materials (55%).

Print Customer Trends Driving Production Inkjet Demand

- Over half of communication buyers and influencers that specify the processes used to print their organization's work use inkjet (57%) and digital electrophotographic/toner printing (55%), meanwhile 37% specify offset printing.
- Buyer respondents' top three considerations when selecting a printing process to print their jobs are quality (90%), budget (55%), and turnaround time (55%).
- Over half (58%) of print buyer respondents print their organization's critical customer communications on production inkjet, while 41% print them on digital toner.

Bills and Statements Customers Want Color and Customization

- 91% of communication buyers and influencers responsible for bills and statements report their critical customer communications include marketing and customer service messages targeted to the recipient.
- 76% of communication buyers and influencers responsible for bills and statements report the majority of their critical customer communications are printed in color.

Book Customers Value Digital Printing

- The majority of respondents that buy or influence books opt to print them on digital presses. 56% report their books are printed on toner devices, 48% production inkjet, 28% offset, and 24% digital printing but not sure what process.
- The primary reasons survey respondents specify digital printing for their books is to print shorter runs (55%) and personalize or customize book components (50%).
- Respondents that specify books report digital printing reduces cost per unit/book printed (55%), up-front inventory printing costs (41%), shipping costs (41%), and warehousing costs (32%).

Inkjet Adding Value to Catalogs and Publications

- More respondents report their catalogs and publications are produced via digital printing versus offset, with 45% using production inkjet and 43% toner.
- Communication buyers and influencers of catalogs or magazines/periodicals/journals use digital printing to produce targeted short-run publications (66%), entire publications customized toward individuals (40%), custom cover wraps and inserts (38%), and sections fully personalized to the recipient.

INKJET DELIVERING SIGNIFICANT BENEFITS

Production inkjet presses are delivering significant advantages to respondents' operations. On average, the 55 respondents working at print-for-pay organizations (in-house printing operations were excluded from this question because they operate under a different business model than print-for-pay companies that may skew results) indicate their investment in production inkjet yielded a:

- 3.9% decrease in paper costs/consumption
- 4.9% decrease in production waste
- 11.8% increase in profits; 7 respondents reported increases greater than 50%
- 1 person decrease in press operating staff

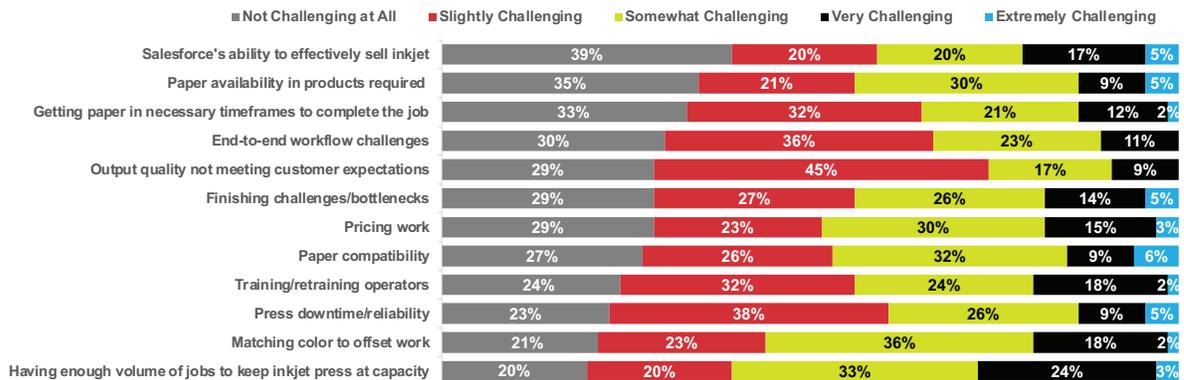
Continuing adoption and technological advances in production inkjet are resolving initial hurdles. When asked to rate the level of challenge various aspects of printing work on inkjet presses can present, overall, respondents selected not challenging or slightly challenging (Figure 2). Selling inkjet applications, paper, workflow, output quality, finishing, pricing, training operators, press downtime/reliability, matching color to offset, and filling press capacity presented minimal challenges to print providers with inkjet presses.

On average, the 55 respondents working at print-for-pay organizations (in-house printing operations were excluded from this question because they operate under a different business model than print-for-pay companies that may skew results) indicate their investment in production inkjet yielded a:

- 3.9% decrease in paper costs/consumption
- 4.9% decrease in production waste
- 11.8% increase in profits; 7 respondents reported increases greater than 50%
- 1 person decrease in press operating staff

Figure 2: Inkjet Challenges Marginal

Q. Please rate the level of challenge of each of the following in printing work on production inkjet presses.



n=66 Print Providers with Production Inkjet
Source: The Production Inkjet Application Revolution, NAPCO Research 2024

NAPCO RESEARCH

INKJET PRESS INVESTMENT TRENDS

Over half (54%) of survey respondents report operating production inkjet presses. *Table 1* shows survey respondents’ production inkjet printing capabilities by all respondents, print-for-pay respondents, and in-house printing operations. Sheetfed inkjet is the most common production inkjet press respondents operate. In-plant respondents report a higher incidence of operating sheetfed inkjet presses than print-for-pay respondents, who have higher occurrences of operating webfed presses or both webfed and sheetfed inkjet.

Table 1: Production Inkjet Capabilities

INKJET CAPABILITIES	ALL RESPONDENTS	PRINT-FOR-PAY RESPONDENTS	IN-PLANT RESPONDENTS
Operate sheetfed production inkjet press/presses	25%	21%	35%
Operate webfed production inkjet press/presses	16%	17%	13%
Operate both sheetfed and webfed production inkjet press/presses	13%	16%	5%
Do NOT operate production inkjet press but plan to invest	23%	25%	20%
Do NOT operate production inkjet press and no plans to add	23%	21%	27%
Number of Respondents	219	159	60

Source: *The Production Inkjet Application Revolution, NAPCO Research 2004*



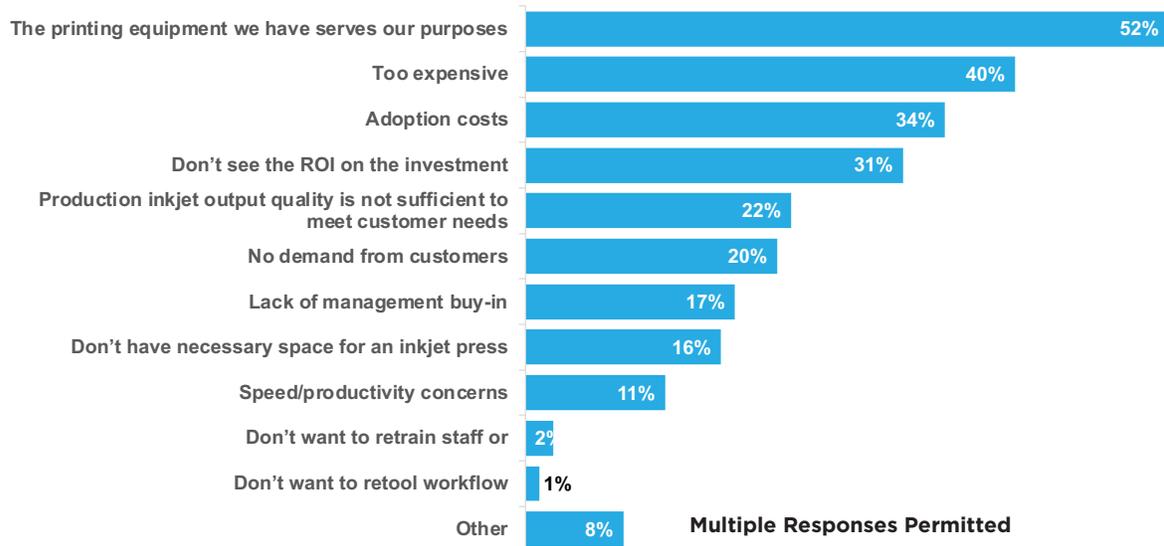
The high percentage of print providers that operate inkjet presses is reflective of the technological advancements that have made it an attractive, versatile, highly productive, and more accessible technology. In addition, while the first high-speed production inkjet presses were webfed systems, the introduction of sheetfed inkjet presses is expanding opportunity for print providers by offering affordability, high-quality color printing, attractive running costs, smaller footprints, substrate flexibility, and enhanced productivity.

Reasons for Not Investing in Inkjet

Those respondents that did not invest in production inkjet presses (Figure 3) believed that their current equipment serves their organization’s needs (52%), it was too expensive (40%), adoption/ implementation costs were high (34%), wouldn’t achieve desired ROI (31%), and output quality didn’t meet customer needs (22%).

Figure 3: Reasons for Not Investing in Production Inkjet

Q. Why haven't you invested in production inkjet devices?



n=88 Print Providers that Don't Operate Inkjet Press(es)
 Source: The Production Inkjet Application Revolution, NAPCO Research 2024



Reasons for Investing in Inkjet

The top reasons respondents invested in or are planning to invest in a production inkjet press (Figure 4) center on increased productivity (45%), meeting customer demands for shorter runs (43%), shorter turnaround (39%), moving offset volume to inkjet (36%), lower cost of ownership compared to toner (35%), migrating toner work to inkjet (35%), and print more personalization/variable data print work (35%).

Figure 4: Reasons for Investing in Production Inkjet

Q. Why has your company invested/investing in production inkjet presses?



n=143 Respondents that Have or Plan to Add Production Inkjet Presses
 Source: The Production Inkjet Application Revolution, NAPCO Research 2024

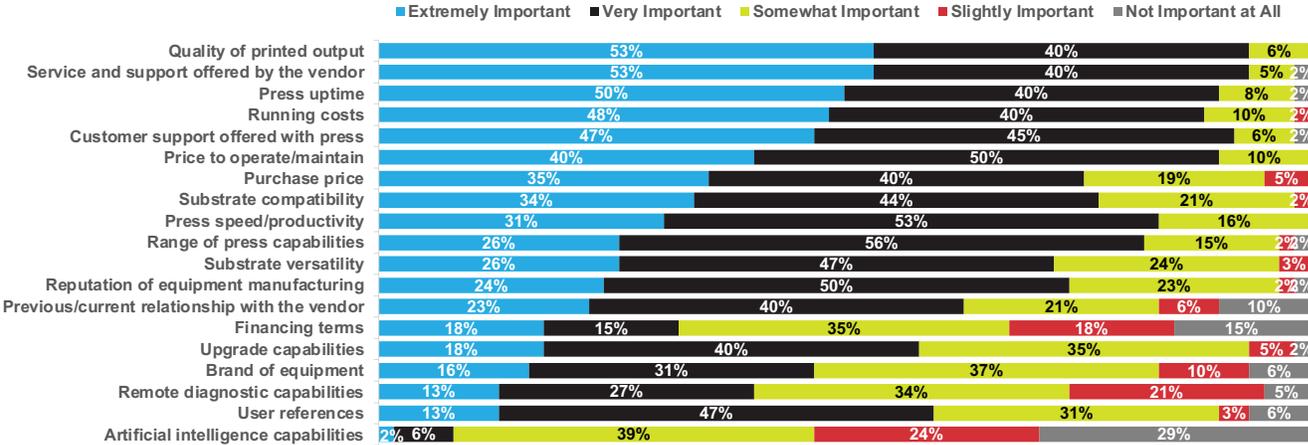


INKJET PRESS SELECTION FACTORS

When selecting a production inkjet press, print providers with inkjet presses rated output quality, post-sale press vendor support and service, uptime, and running costs, as the most important considerations (Figure 5).

Figure 5: Key Inkjet Press Selection Factors

Q. Rate the importance of the following attributes when selecting a production inkjet press.



n=62 Print Providers with Production Inkjet
 Source: The Production Inkjet Application Revolution, NAPCO Research 2024



Production Inkjet Investment Advice from Adopters

Print providers with production inkjet presses report a variety of influencing factors leading to their investment choice. Print providers participating in the in-depth telephone interviews offered the following advice on investing in inkjet:

- According to a direct mail printer with more than 10 years printing with production inkjet, “Before installing an inkjet press, consider your production layout and materials logistics. Where is your paper coming from? How will the paper get to the machine? And then, where is it going after? This is something that sounds simple, but if you’re just starting out it is important to map out the physical workflow.” The direct mail printer adds, “There are many inkjet options so determine what you really need and make sure it is aligned to customer needs. Also, find an equipment vendor that is a partner that you can trust and isn’t trying to sell you the most expensive piece of equipment, but a press that will fit your business the best.”
- A general commercial printer with less than one year printing with inkjet advises, “Have the business for the press before investing in it. Don’t buy it and think customers will come. Also, do your research before investing. We tested files on the inkjet presses we were considering.”

- An in-house printing operation focused on transactional printing with less than one year with inkjet offers, “The only thing I would have done differently before investing in inkjet is to ask for more demos of a few other inkjet presses. I have a good relationship with my press vendor, and when they recommend something, I know that they believe it’s what’s the right fit for our organization.”
- Adds a direct mail printer with between six and eight years of inkjet printing experience, “You need to have the business to justify the inkjet press investment. It’s easy to get caught up in the numbers, the efficiency, and the speeds of a press without fully understanding future press capacity needs. We all want to have the greatest, fastest, highest quality press. While we dream of operating it at ‘X’ capacity, it doesn’t always work out and some times during the year are busier than others and you need be prepared for that.” On a different topic, this printer said, “What tipped us over the edge to invest in inkjet was the ability to run our existing roll stock on the press.”
- Summing up the importance of investing in production inkjet, a general commercial printer with three to five years of experience printing with inkjet says, “If you don’t invest in inkjet, you won’t be in the print business in the next 10 years. If you want to remain in the printing business, you need to invest in production inkjet, it is the industry’s future. Production inkjet presses offer increases in productivity, reduced waste, and don’t need a high-level of expertise to operate — it is a challenge to find offset press operators.”

“If you don’t invest in inkjet, you won’t be in the print business in the next 10 years. If you want to remain in the printing business, you need to invest in production inkjet, it is the industry’s future. Production inkjet presses offer increases in productivity, reduced waste, and don’t need a high-level of expertise to operate — it is a challenge to find offset press operators.”

PRINT WORK MOVING TO PRODUCTION INKJET PRESSES

Overall, respondents expect print work to migrate from other processes to inkjet. The survey asked respondents what percentage of their organization’s current print work is printed via key printing processes today and what they expect in two years. Key processes used by respondents include digital printing dry toner, offset printing, digital printing production sheetfed inkjet, digital printing production webfed/continuous-fed inkjet, wide-format digital printing, digital printing liquid electrophotography (LEP), flexography, gravure, and screen.

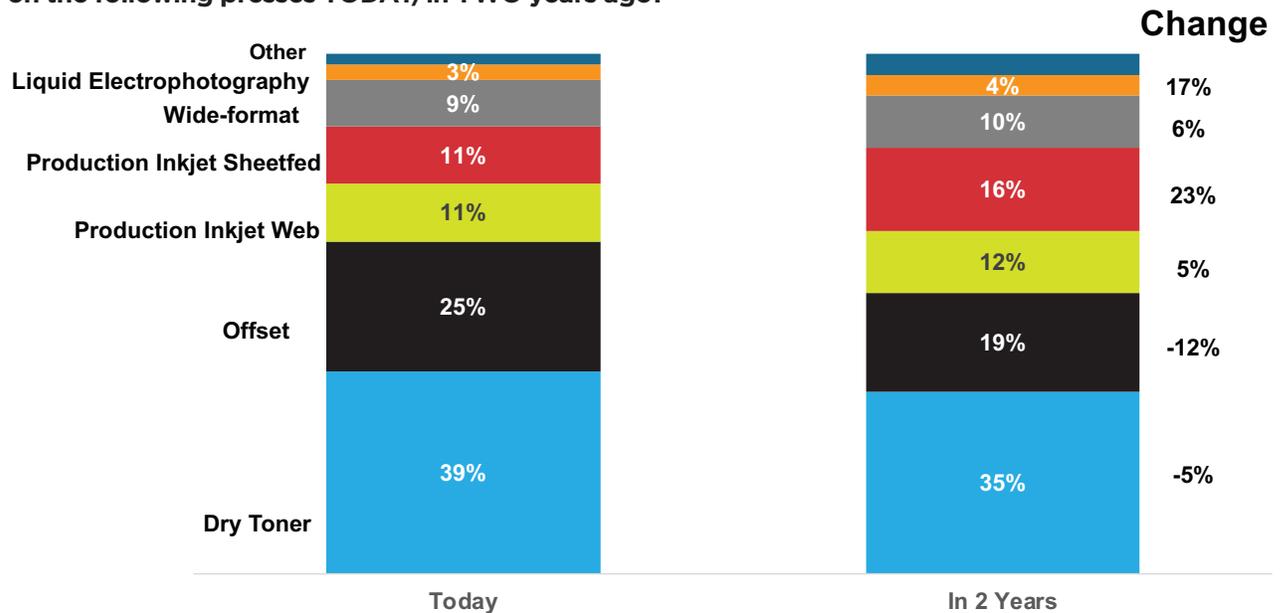
Reviewing the response to this question by all survey respondents (*Figure 6*) and those respondents that print on inkjet presses (*Figure 7*) indicate that the migration from offset and dry toner printing to inkjet is underway.

All Respondents Report Movement to Inkjet

All print survey respondents, including those that do not print on inkjet presses, report dry toner represents the largest share of work (39%), followed by offset (25%) (Figure 6). In the next two years, respondents expect the share of work printed on sheetfed inkjet presses to increase the most (23%) over the next two years and the share of offset printed work to decline the most (-12%). In addition, respondents expect the share of dry toner to decline 5% in the next two years and liquid electrophotography printed work to increase 17%.

Figure 6: All Respondents: Work by Press Type

Q. What percentage of your organization's print work is printed/do you expect will be printed on the following presses TODAY/in TWO years ago?



n=158 Print Providers

Source: The Production Inkjet Application Revolution, NAPCO Research 2024

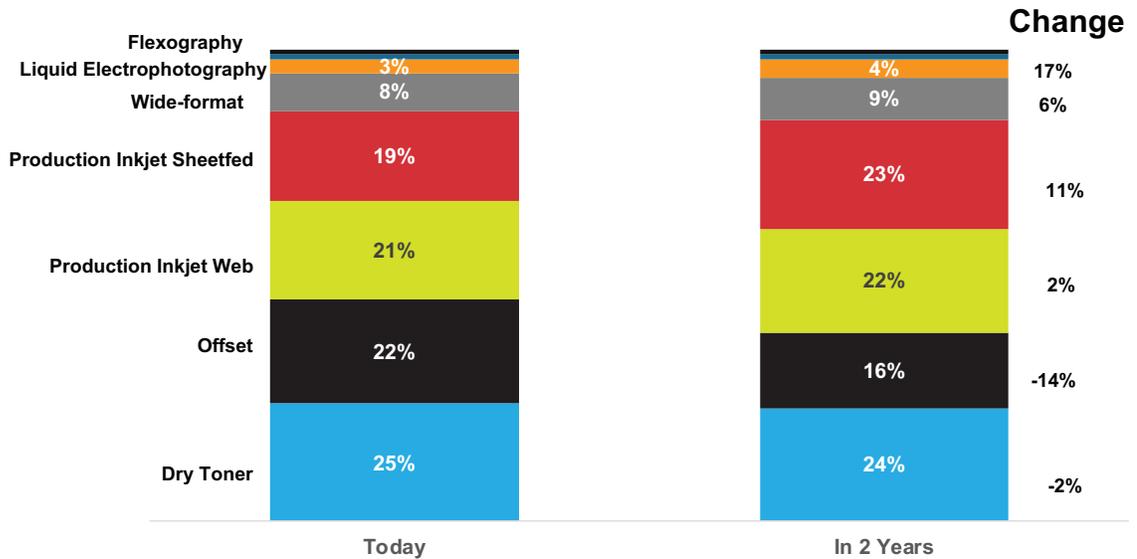


Respondents With Inkjet Report Work Moving to Inkjet

Print providers with inkjet presses report dry toner produces the largest share of work (25%), followed by offset (22%) and production inkjet web (21%) (Figure 7). Print providers with inkjet presses expect their overall share of work printed on these devices to increase. In the next two years, these respondents anticipate a decline in the percentage of work printed on dry toner (-2%) and offset presses (-14%), and increases in work printed on production inkjet web presses (2%), inkjet sheetfed presses (11%), and liquid electrophotography presses (17%).

Figure 7: Respondents with Inkjet: Work by Press Type

Q. What percentage of your organization's print work is printed/do you expect will be printed on the following presses TODAY/in TWO years ago?



n=82 Print Providers that Operate Inkjet Presses

Source: The Production Inkjet Application Revolution, NAPCO Research 2024



Print providers with inkjet presses offered the following answers to an open-ended survey question on trends in moving work to inkjet presses:

- “We are working on migrating almost everything to inkjet.”
- “We push every product to inkjet — phasing out offset.”
- “[Inkjet is a] good fit for print quality and cost.”
- “Inkjet lets us more efficiently produce shorter run versions without the plate costs”
- “Nearly all applications/job types are going to inkjet, maybe with the exception of some synthetic materials, which are sometimes a challenge to print on inkjet.”

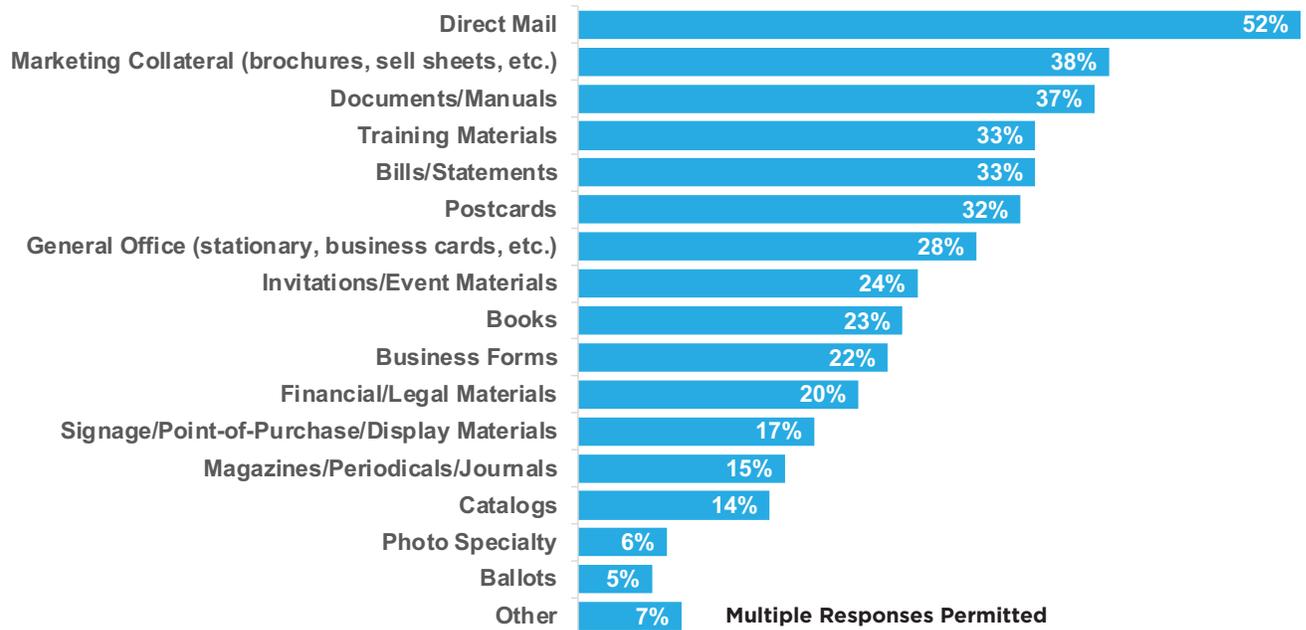
APPLICATION MIGRATION TRENDS

As inkjet press output quality, equipment features, productivity, and substrate capabilities have all improved, the list of applications produced on inkjet presses continues to grow. While early inkjet-printed applications included transactional documents, direct mail, and books, inkjet presses today are producing nearly all types of printed applications.

Respondents were asked, of the applications that their organizations print, which ones are printed on production inkjet presses (Figure 8). Direct mail was the top application respondents reported printing on production inkjet presses. In addition, respondents report printing a wide variety of applications on inkjet presses, including marketing materials documents/manuals, training material, bills/statements, postcards, office stationery, books, publications, catalogs, photo specialty products, and ballots.

Figure 8: Applications Printed Via Inkjet

Q. Of the applications your organization prints, which ones are printed on production inkjet presses?



n=95 Print Providers that Operate Inkjet Presses

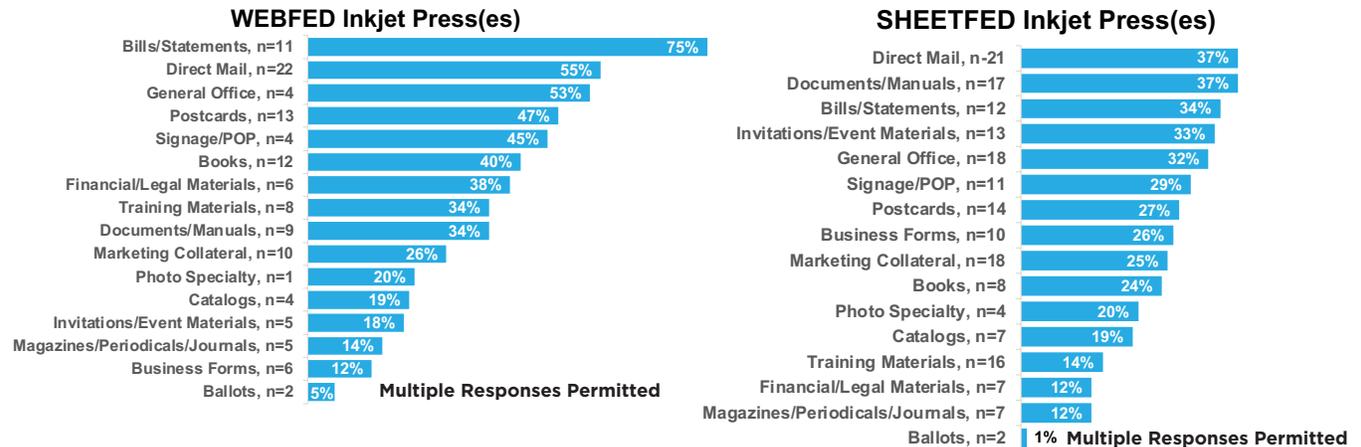
Source: The Production Inkjet Application Revolution, NAPCO Research 2024



Digging deeper into the volume of specific print applications printed on production inkjet presses, the survey asked respondents what percentage of the applications they produced were produced on webfed and sheetfed inkjet presses. Figure 9 shows the present volume produced on webfed and inkjet presses. While production inkjet adoption across the survey base is still comparatively low, these data demonstrate that both web and sheetfed inkjet presses are being used to print all types of applications. Applications that were first printed on webfed inkjet presses, such as bills, statements, direct mail, and books, are also being printed on sheetfed inkjet presses.

Figure 9: Application Volume by Type of Inkjet Press

Q. Of the applications your organization prints via production inkjet, what percent of each application's volume is printed on your production ...



Base=Print Providers that Operate Webfed Inkjet Presses
 Source: The Production Inkjet Application Revolution,
 NAPCO Research 2024

Base=Print Providers that Operate Sheetfed Inkjet Presses



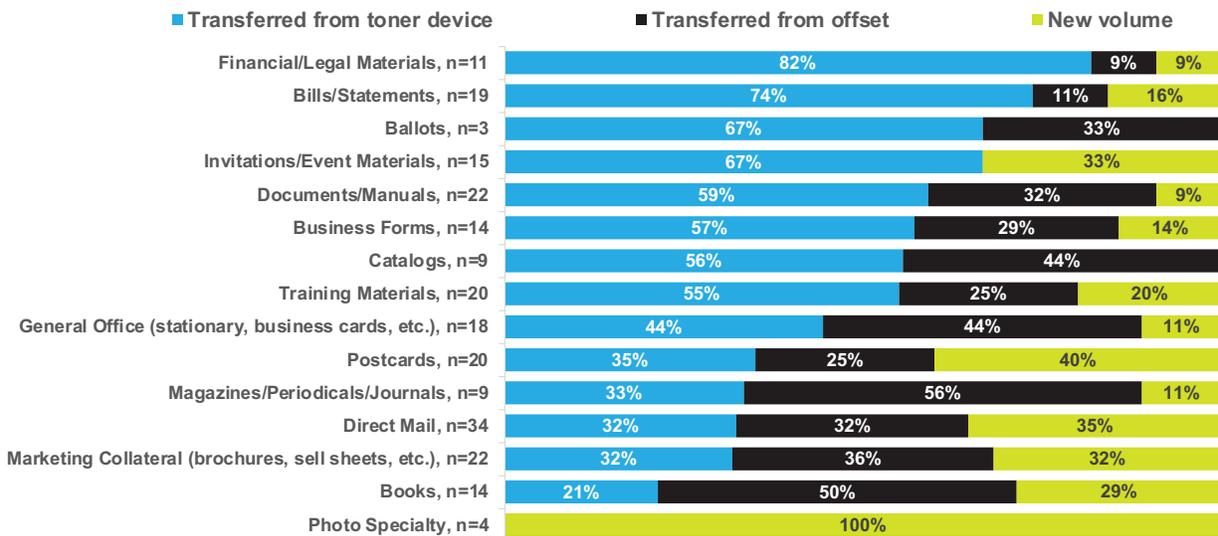
Of the applications printed on inkjet presses, respondents were asked if work volume was the result of jobs transferred from toner devices, offset presses, or if it was new volume. *Figure 10* shows that a majority of applications printed on production inkjet presses have moved from toner devices.

Over two-thirds of print providers report transferring toner work to inkjet presses to produce financial/legal materials (82%), bills/statements (74%), ballots (67%), and event materials (67%). In addition, over half of print providers transferred work from toner devices to inkjet presses to produce documents/manuals (59%), business forms (57%), catalogs (56%), and training materials (55%).

The application that respondents report came entirely from new volume is photo specialty products. Production inkjet presses are a competitive platform for offering photo specialty products. Historically, photo products have been produced on offset or liquid toner presses, or with traditional chemically based silver halide photo processing. Today's inkjet sheetfed and webfed presses are capable of producing stunning prints and allowing print providers new entry points into this growing application area.

Figure 10: Sources of Volume for Inkjet Printed Applications

Q. For each application you print via inkjet, what has been the PRIMARY source of volume?



Base=Print Providers with Production Inkjet

Source: The Production Inkjet Application Revolution, NAPCO Research 2024



Responses to an open-ended survey question yield insights into application migration trends. Print providers with production inkjet were asked: Please briefly explain the applications that are migrating the most to inkjet production and why?

As one participant reports, “As quality of inkjet improves, we are finding more uses.”

On the topic of quality, another respondent says, “Production inkjet quality is close to or has a greater color gamut than litho.”

Responses by application category reveal the following migration trends:

Bills and Statements

- “Bill and statements [are moving to inkjet] because we can add splashes of color but keep the cost very close to monochrome toner printing.”
- “Most of our transactional print is moving to inkjet.”
- “All statements have gone to inkjet.”

Direct Mail

- “Postcards are extremely efficient [to produce] on the inkjet press.”
- “All of our DM personalized form work [is moving to inkjet so,] we can eliminate laser personalization and allow customers 100% personalization.”

- “Direct/mail postcards are almost entirely migrated [to inkjet] for turnaround time, direct addressing variable info, and labor savings.”
- “Most of our direct mail and marketing materials are moved to inkjet. Printing in color versus digital black and white has added service value.”
- “We have eliminated most pre-printed shells and have primarily become a white paper factory in all locations.”

Books

- “Commercial book printing has been an application that has moved from offset to inkjet web. Mostly for throughput reasons. For coil or wire-o binding, the web and cut to stack is a much quicker turn time. Small quantities are also moving to inkjet.”
- “As book litho volumes drop, production inkjet takes up the slack.”
- “Book production, particularly monochrome textbooks in smaller quantities and some color production of children’s books are moving to inkjet. All are coming because of the development of workflows that allow the easy production of quantities per title down to one copy.”

PRINT CUSTOMER DEMANDS DRIVING INKJET VOLUME

Production inkjet printing offers print customers many benefits including expanding versioning and personalization capabilities, ability to use more color, print shorter run work, faster speed, and new products. An essential component of this research study was surveying print customers to identify opportunities inkjet printing offers their organization and their knowledge of inkjet.

Communication buyers and influencers that specified print were asked for the print applications they were responsible for: What percent of the print applications you influence, or purchase include versioning (e.g., images and text customized to a group of recipients), include dynamic personalization (e.g., images and text customized to an individual recipient) or printed in color? *Table 2* shows the percentage of respondents’ print applications that are versioned to a group, customized to individual recipients, or printed in color.

Table 2: Print Customers Use of Versioning and Color

APPLICATION	% VERSIONING	% DYNAMIC VERSIONING	% COLOR
Photo Specialty Products (n=38)	50%	42%	58%
Postcards (n=54)	43%	37%	62%
Direct Mail (n=118)	39%	37%	58%
Marketing Collateral (n=85)	35%	25%	68%
Newsletters (n=61)	32%	31%	42%
Bills/Statements (n=69)	31%	28%	20%
Ballots (n=9)	30%	26%	21%
Invitations/Event Materials (n=55)	30%	30%	55%
Training Materials (n=56)	29%	28%	26%
General Office Materials (n=92)	29%	25%	47%
Magazines/Periodicals/Journals (n=47)	27%	21%	47%
Catalogs (n=46)	27%	24%	43%
Financial/Legal Materials (n=51)	26%	25%	17%
Business Forms (n=65)	23%	21%	23%
Documents/Manuals (n=78)	23%	20%	28%
Books (n=25)	21%	16%	36%

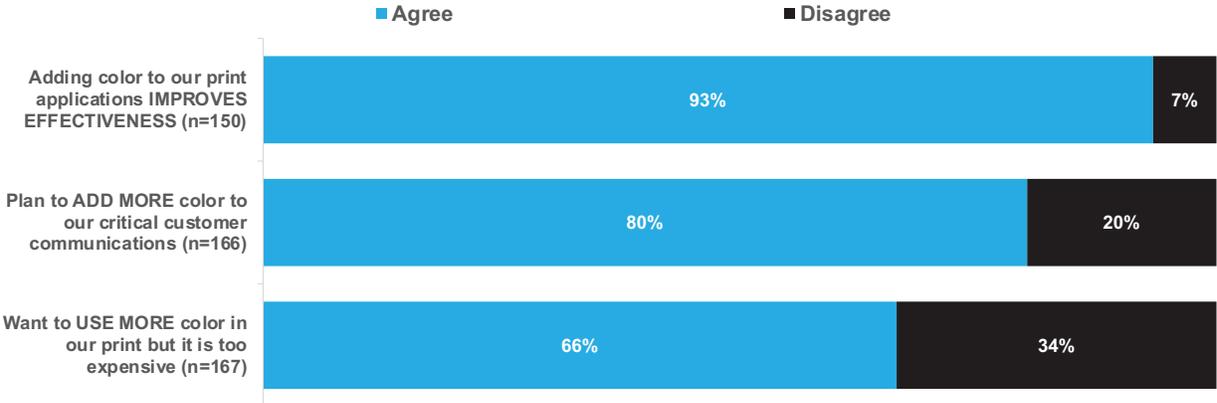
Base=Communication Buyers and Influencers
 Source: The Production Inkjet Application Revolution, NAPCO Research 2024



Print customers report the use of color in the print their organizations use is important because it improves effectiveness, and they plan to add more color to critical customer communications (Figure 11). Even though respondents want to use more color in print, they believe it is too expensive.

Figure 11: Color Use Trends

Q. Please rate your level of agreement with each of the following statements regarding your use of color in the printing applications you purchase or influence.



Base=Communication Buyers and Influencers
 Source: The Production Inkjet Application Revolution, NAPCO Research 2024



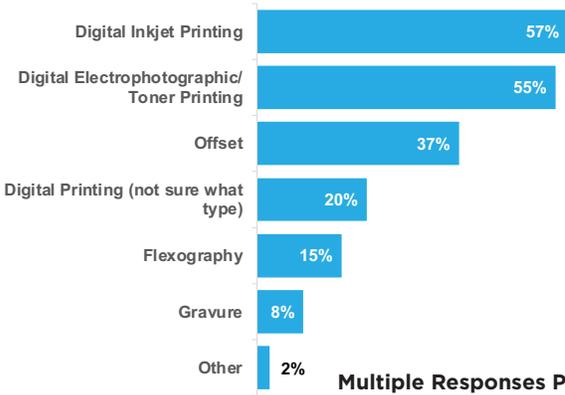
Inkjet Delivers Value to Print Customers

Production inkjet presses offer many advantages for meeting communication buyers' and influencers' demand for versioning and color across applications. Communication buyers and influencers report production inkjet delivers value to their printing. Over 75% of communication buyers and influencers report specifying the printing process used to print their work and 57% report using inkjet presses to produce work (Figure 12). Buyer respondents' top three considerations when selecting a printing process to print their jobs are quality, budget, and turnaround time (Figure 12).

Figure 12: **Print Process Selection Factors**

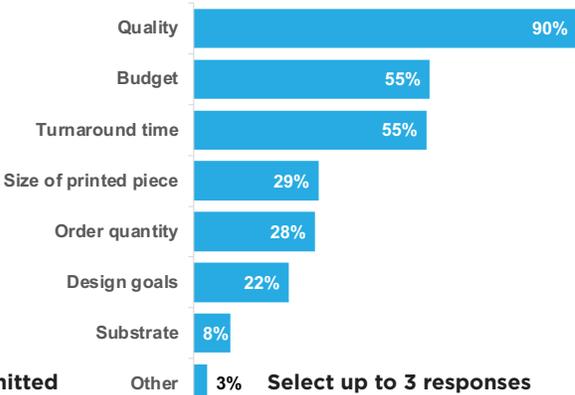
Printing Processes Specified

Q. Which of the following printing processes do you specify/use to produce your print work?



Printing Process Selection Factors

Q. What are your top THREE considerations when selecting the printing process to produce your work?



n=130 Communication Buyers and Influencers that specify the printing process used to produce work
 Source: The Production Inkjet Application Revolution, NAPCO Research 2024



TRENDS IN KEY INKJET PRINTED APPLICATIONS

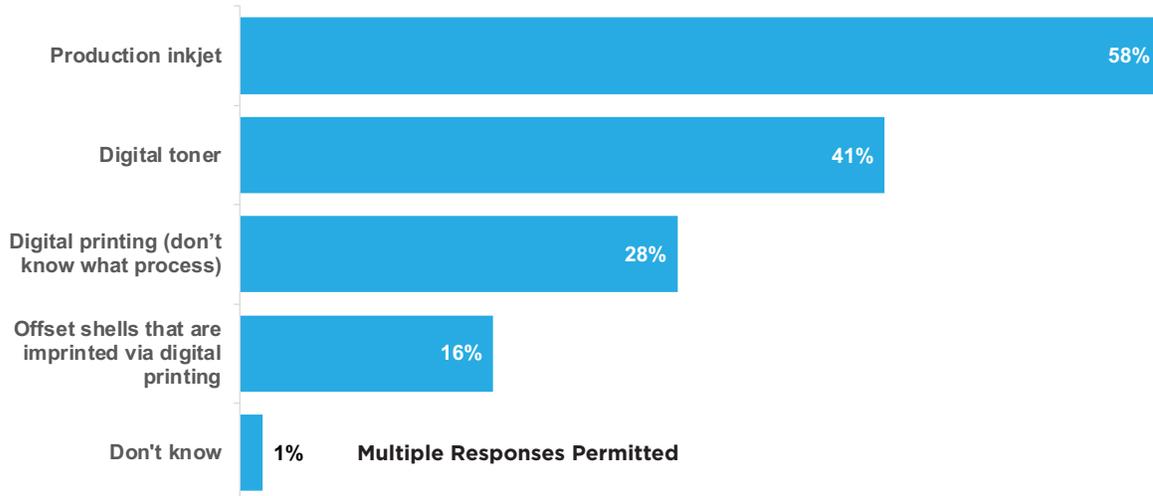
The survey asked communication buyers and influencers what specific processes were used to print critical customer communications, books, and publications/catalogs, applications that were among the first to be printed on inkjet presses.

Adding Value to Transactional Documents

Over half (58%) of survey respondents print their organization's critical customer communications on production inkjet presses, while 41% print them on digital toner (Figure 13). Inkjet is popular because of its ability to print affordable full-color, highly variable output. In addition, production inkjet technology has made color communications affordable and endlessly customizable.

Figure 13: Methods for Printing Critical Customer Communications

Q. How are the critical customer communications (i.e., bills, statements, etc.) your organization produces printed?



n=69 Communication Buyers and Influencers respondents that influence or purchase bills/statements

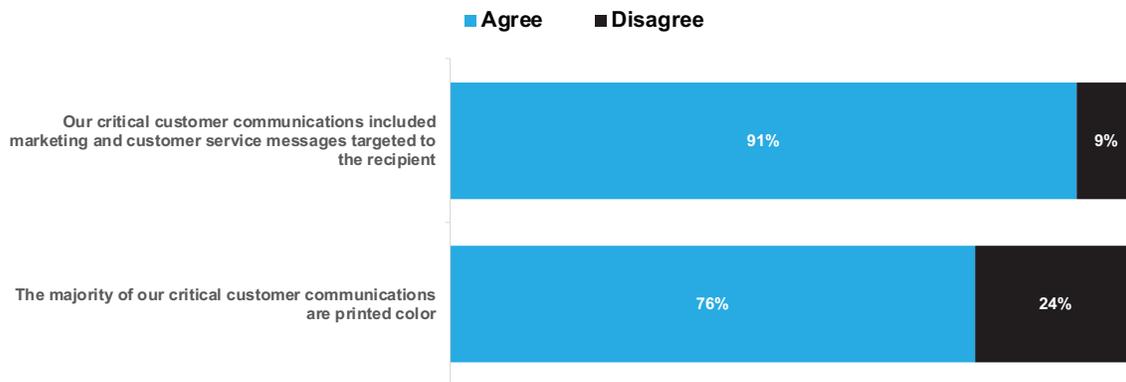
Source: The Production Inkjet Application Revolution, NAPCO Research 2024



Respondents indicate their critical customer communications include messages customized to recipients (91%) and that the majority (76%) of their communications are printed in color (Figure 14). A trend in transactional documents, accelerated by inkjet printing, is their evolution as marketing vehicles. Expanded use of color and personalization enhances the effectiveness of customer communication's main task, while expanding its role to be a marketing vehicle.

Figure 14: Messaging and Color Key for Critical Communications

Q. What is your level of agreement with following statements related to your organizations' critical customer communications (i.e., bills, statements, etc.)?



n=69 Communication Buyers and Influencers respondents that influence or purchase bills/statements

Source: The Production Inkjet Application Revolution, NAPCO Research 2024

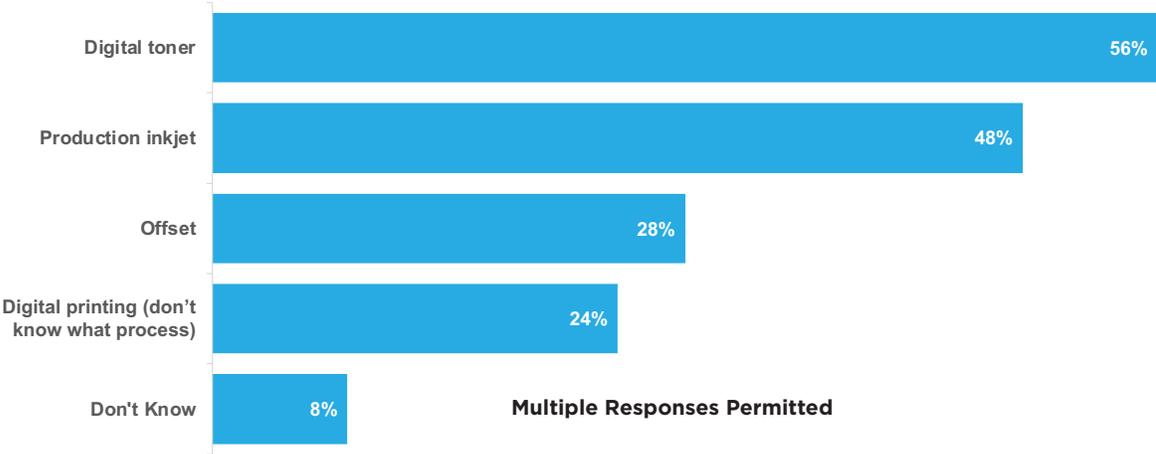


Offers Book Publishers Agility and Profitability

Inkjet offers book publishers options to improve agility needed to adjust to uncertain market demands and profitability. Digital book printing overall is attractive to publishers because of its ability to print shorter runs, more versions, and as needed. While books have been produced on digital printing systems for more than two decades, production inkjet printing continues to move more work from offset presses to digital devices. Inkjet presses have redefined the economics of printing books on-demand in larger quantities, without sacrifices in quality. Over half of survey respondents (56%) report their books are printed on toner devices, 48% production inkjet, 28% offset, and 24% digital printing but not sure what process (Figure 15).

Figure 15: Processes Used for Book Printing

Q. How are the books your organization produces printed?



n=25 Communication Buyers and Influencers respondents that influence or purchase books
Source: The Production Inkjet Application Revolution, NAPCO Research 2024

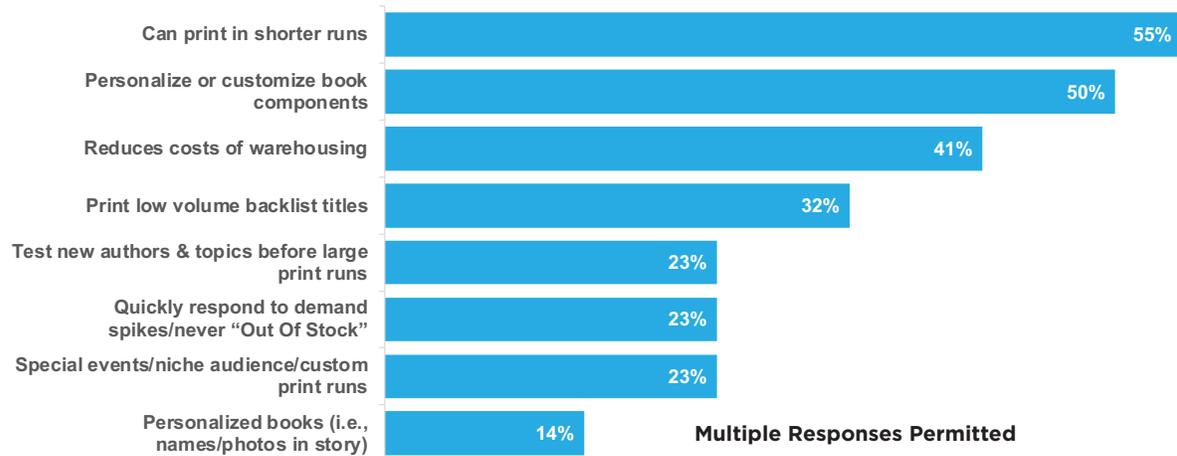


Book printers were early adopters of digital printing and production inkjet. Much of the early growth in production inkjet volume was in the printing of monochrome book blocks. The next phase for digital book production is sheetfed inkjet presses that can affordably produce high-quality monochrome and color work on a variety of substrates.

The primary reasons survey respondents specify digital printing of their books (Figure 16) are their need for shorter runs, requirements for personalization and customization, reducing warehouse costs by printing on demand, producing back list titles, testing new titles, and responding immediately to demand fluctuations.

Figure 16: Reasons for Printing Books on Digital Presses

Q. What are the primary reasons you specify digital printing for producing books?



n=22 Communication Buyers and Influencers respondents that influence or purchase books

Source: The Production Inkjet Application Revolution, NAPCO Research 2024

NAPCORESEARCH

Production inkjet printing offers book customers the ability to:

- Add color pages to books as desired
- Update content for reprints and reruns
- Version books by language, regional, and seasonal material, etc.
- Enhance the reading experience with variable text and imaging, including personalized, reader-specific content
- Make book pages interactive by adding QR codes, AR tags, and/or other multimedia technologies

Ongoing trends in the publishing market for shorter runs, personalization, production agility, lower costs, and waste reduction will drive more book production toward digital inkjet. The survey asked respondents that specify books: What costs have you been able to reduce by producing books via digital printing? Respondents report experiencing the following cost reductions by printing books on digital presses:

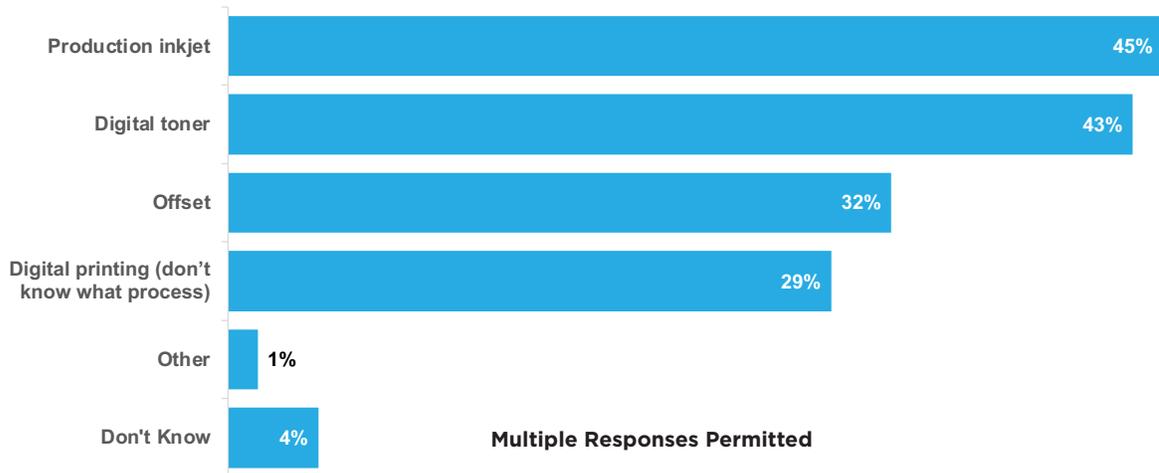
- 55% cost per unit/book printed
- 41% up-front inventory printing costs
- 41% shipping
- 32% warehousing
- 9% returns

Enhancing Publications and Catalogs

Respondents that purchase or influence the production of publications and catalogs report production inkjet and toner are key processes for printing those applications (Figure 17).

Figure 17: Processes Used for Publication and Catalog Printing

Q. How are the publications or catalogs your organization produces printed?



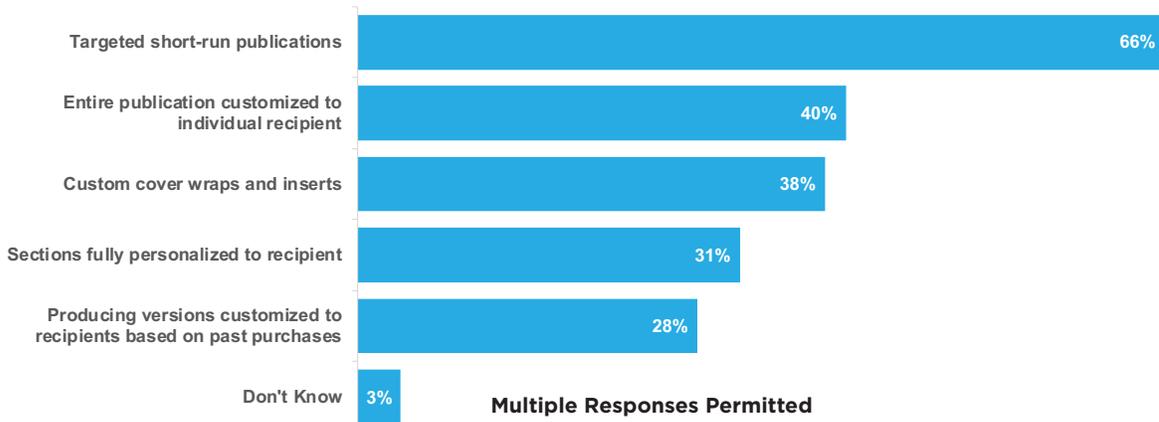
n=69 Communication Buyers and Influencers respondents that influence or purchase catalogs or magazines/periodicals/journals
Source: The Production Inkjet Application Revolution, NAPCO Research 2024



Digital printing is enabling organizations that produce catalogs and publications the ability to (Figure 18) produce targeted short-run publications (66%), entire publications customized to individuals (40%), custom cover wraps and inserts (38%), and sections fully personalized to the recipient (28%).

Figure 18: Reasons for Printing Catalogs and Publications on Digital Presses

Q. In which of the following ways is your company using digital printing to produce catalogs and publications?



n=58 Communication Buyers and Influencers respondents that influence or purchase catalogs or magazines/periodicals/journals
Source: The Production Inkjet Application Revolution, NAPCO Research 2024



CONCLUSION

Production inkjet is no longer a ‘wait and see’ investment, as print providers with these presses are winning in the market. The survey results are a testament that production inkjet presses are delivering profitable benefits, and that the application revolution has begun as print applications are migrating to these presses. While initial inkjet presses first printed transactional documents and lower production quality direct mail, today’s presses are producing all types of applications.

Former challenges in production inkjet printing — paper, workflow, output quality, finishing, pricing, training operators, press downtime/reliability, matching color to offset — continue to dissolve. Print providers that added production inkjet into their production mix are experiencing solid results, including decreases in costs, higher productivity, and increases in profitability.

To sum up, using the words of a print provider with inkjet presses interviewed for this research study, “Inkjet is the industry’s future.”



WHO WE ARE

 NAPCO RESEARCH

NAPCO Research crafts custom data-centric solutions that leverage our highly engaged audiences across the markets in which we operate, our industry subject matter experts and in-house research expertise. We partner with our clients to identify their unique business problem and create solutions that enable deeply informed decision-making.

NAPCO Research can help with:

- Business goal prioritization
- Opportunity discovery
- Market segmentation
- Landscape insight
- User needs and wants
- Product features and functionality
- Content marketing strategy
- Sales strategy and tactics
- Market conditions
- Benchmarking
- Industry trends
- Brand awareness

Contact research@napco.com to talk with our analysts to find out how we can help you with your research needs.



WHO WE ARE



BILLERUD

Billerud is a world leading producer of high-performing paper and packaging materials made from virgin fiber; passionately committed to sustainability, quality, and customer value. We are a leading supplier of high-quality graphic and label papers, packaging materials, and market pulp. Our distinguished graphic product line including sheets, web, digital, and inkjet papers offers a broad selection of forest management and chain-of-custody certification options for all types of commercial printing applications.

The company has nine production units in Sweden, USA, and Finland with around 6,100 employees in over 13 countries and customers in over 100 countries. Billerud is listed on Nasdaq Stockholm. In the United States, Billerud operates out of a regional head office in Miamisburg, Ohio, two mills in Michigan's Upper Peninsula, a converting operation in Wisconsin and numerous distribution centers.

At Billerud, we build brands and business results for our customers. To learn more about our complete product offering, please visit billerud.com.



WHO WE ARE

Canon

CANON SOLUTIONS AMERICA

At Canon Solutions America, our mission is to improve workflow efficiency and document processes for organizations of all sizes and industries. We demonstrate this mission by earning the No. 1 position in total inkjet market share, both in the U.S. and worldwide, and also lead market share for web-fed inkjet. Through our cutting-edge technologies and media support, we know that no matter the application, we'll have your solution. Canon prides itself on bringing innovative inkjet solutions to market and supporting those solutions with robust customer training and a renowned reputation for 24/7 service and support.

To learn more, visit pps.csa.canon.com, email us at productionprint@csa.canon.com, or call us at 1-877-623-4969.



WHO WE ARE



Kodak (NYSE: KODK) is a leading global manufacturer focused on commercial print and advanced materials & chemicals. With 79,000 worldwide patents earned over 130 years of R&D, we believe in the power of technology and science to enhance what the world sees and creates. Our innovative, award-winning products, including groundbreaking continuous inkjet technology and proprietary inks and coatings, combined with our customer-first approach, make us the partner of choice for commercial printers worldwide.

For additional information on Kodak, visit us at [Kodak.com](https://www.kodak.com) or follow us on LinkedIn Kodak Print.

