

# InfoTrak

INFORMATION FOR BETTER DECISIONS

## Utilizing Digital Printing to Enhance Your Marketing Fulfillment Program

If you're involved with sales and marketing, you've probably heard the term: Print on demand. You may also have heard the terms "on demand printing" and "digital printing" and perhaps you're confused about the terminology and how the technology can and should be utilized. If so, read on to learn more about how all types of printing can best support your marketing collateral and printing strategies.

### LET'S START WITH THE BASICS

"Traditional" printing connotes the use of an offset printing press. The term "offset" refers to the common printing process that makes prints by transferring ink from a flat plate to a rotating "blanket" that contacts the paper. So, offset printing is the process of making an impression of the image (text, photos, illustrations, etc.) and then reproducing that image thousands or millions of times.

"Print on demand" or "on demand printing" are terms with a variety of misused meanings. In the simplest and most accurate terms, all printing is on demand — the customer requests it and the printer delivers. But most people use the terms to connote short-run, just-in-time printing.

"Digital printing" is another term that is often inaccurately used synonymously with print on demand. Print on demand usually refers to the process of electronically transmitting a file to a vendor that uses digital output printers, such as those manufactured by companies such as Xerox, Xeikon, IBM and Indigo. However, technically, "digital printing is any reproduction technology that receives electronic files and uses spots (or dots) for replication. Ink, toner, inkjet, or any other dye- or pigment-based transfer system may be used. This covers almost every present system for outputting graphic information to file, plate, or paper."<sup>1</sup> In other words, all printing is digital, but, for the sake of clarification, we'll use the term digital printing to denote the bundle of benefits associated with the term, which are:

- Variable data capability
- Cost-effective, short-run capability
- Quick turnaround

### IN THIS ISSUE...

Print on Demand — what it is and what it isn't

The History of Digital Printing

The Advantages and Limitations of Digital Printing

When Should You Consider Digital Printing

Digital Demand Replenishment — using your fulfillment and printing dollars wisely



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## THE HISTORY OF DIGITAL PRINTING

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Johann Gutenberg of Germany is historically considered the inventor of Western printing, dating back to 1450. Since then, numerous advances have been made in printing technology. Robert Howard is credited with breaking down letters into individual dots, which makes digital printing possible.

According to *Document Processing Technology*, February 2000, “The emergence of POD (print on demand) as a viable business initiative is linked to the development of the Xerox DocuTech in 1990. This printer introduced the ability to electronically submit or scan documents directly into a production system where they could be saved and reprinted on an as-needed basis.”

Print on demand was first introduced as a cost-reduction strategy by eliminating the need for printing large quantities of material (to take advantage of price breaks) and then holding the material in inventory. Historically, to avoid costly offset short-run printing, companies would overprint materials. The result was greater inventory storage costs plus the costs associated with obsolescence. Furthermore, when large quantities of a printed piece were still available in inventory, a company might be less likely to update the material with information that was not considered content critical. Thus, marketing and sales collateral often did not reflect that “latest and greatest” verbiage simply because of the costs associated with updating the material.

Digital printing has effectively begun to change the way companies develop their printing and marketing strategies.

## THE ADVANTAGES AND LIMITATIONS OF DIGITAL PRINTING

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Now that we’ve established the definitions of digital and traditional printing, what are the associated advantages and limitations?

### Advantages

#### ■ **Variable data capability**

With traditional printing, each output is a reproduction of the original. This process is known as *static printing* because each and every document is produced from the same “image carrier,” which is fixed with the same image.

Conversely, digital printing (as we’ve proposed to define it) means each output is an original, so while two documents may look exactly the same, they are both originals because the “image carrier” is re-imaged for each copy. This is known as *dynamic printing*.

Because it’s virtually no more costly or time-intensive to customize digitally outputted documents (after all, the printer is not reproducing an original but rather creating an original with every output), the possibilities are limitless. Training manuals can be produced with customized sections to meet a specific groups’ knowledge level. Brochures can be “versioned” to reflect geographical colloquialisms and scenic images. And letters can be individualized with not only date and address fields, but also information that is specific to the recipients’ interests or information requests.

This level of individualization is also known as “one-to-one” marketing and is highly effective in the direct mail arena.

- **Cost-effective, short-run capability**

Historically, short print runs have been a big issue for buyers of print and the printers themselves. Because of the time and cost involved in making films and plates (the “makeready” process), it’s not financially sound to produce fewer than 2,500 copies using traditional offset methods. So, if a business needed 700 copies of a newsletter it either printed the full 2,500 and discarded the unused portion or utilized a quasi-alternative solution such as photocopying or, worse, doing without.

*The advantage to static printing is the cost effectiveness of long runs. You can actually plot the relationship between offset color printing and digital color printing by comparing run length and cost per unit. Numbers show that offset printing has a high up-front cost, based on the makeready process, and that each additional unit printed absorbs part of that cost. The more units, the less cost per unit. Digital printing, on the other hand, has no real makeready process, so each unit costs the same.<sup>1</sup>*

Digital presses generate output with relatively minor “makeready” costs and, thus, are very cost effective for short runs — in quantities as few as one.

- **Quick turnaround**

Another advantage of digital printing is the turnaround time. Digital printing requires little set-up time (no film, plates or makeready are required), allowing production to begin as soon as document creation is complete. Files may be transferred to digital presses via CD ROM, diskette or scanning; however, when files are transmitted via the Internet, the transmittal process is shortened even further.

## Limitations

As with any product or service, there are benefits and tradeoffs. The biggest tradeoff with digital versus traditional printing is the quality of the output; however, as the technology continues to advance, that gap should diminish.

- **Inconsistent color matches.** Digital technology has not yet achieved the color integrity of offset printing presses; therefore, collateral that requires true color matches should be produced using offset methods.
- **Paper size/type limitations.** Not every piece of printed collateral is a good candidate for digital printing. Historically, paper size, weight and finishing options were limited when using digital output methods; however, as technology advances the candidates for digital production expand.
- **Quantity limitations.** Offset printing usually becomes more cost effective than digital printing when you print quantities greater than 2,500. Because digital printing has not yet matched offset in quality, the cost savings of digital versus offset should be significant enough to warrant the quality sacrifice.

## WHEN SHOULD YOU CONSIDER DIGITAL PRINTING?

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**“Since 1984 — the dawn of the personal computer — the number of pages printed by American companies has grown by 500 percent.”**

— Document Processing Technology, October 2000

Digital printing is intended to complement, not replace, traditional offset printing. Printing on demand is most effectively utilized for short-runs, quickly obsoleted items, tight turnaround deadlines, and customization, such as one-to-one marketing.

According to *Document Processing Technology*, October 2000, “more information has been produced in the last 30 years than in the previous 5,000 — the entire history of civilization. What’s more, that body of information is expected to double in less than five years.” With information clearly so important to the survival of organizations, the

ability to obtain the latest information — quickly — is critical.

### The Digital Demand Replenishment Model

One effective document management strategy, which incorporates the integration of offset and digital printing plus the ability to view and print a document directly from a desktop or laptop computer, is the **digital demand replenishment model**. The digital demand replenishment model utilizes a fulfillment system for the front-end management of all materials — providing a cost-effective solution by allowing users access to one central location to order printed inventory (both offset and digital), while viewing and even printing lower-resolution quality files for internal distribution.

The central premise to this model is that the fulfillment vendor keeps just the right amount of material available for users to maximize turnaround times and responsiveness while minimizing expensive small print runs, eliminating backorders and reducing overage. By utilizing the fulfillment system to manage short-run printing needs, a company’s marketing communications manager can focus on content rather than worrying about overage and high inventory storage and obsolescence costs.

The fulfillment vendor also keeps and makes accessible to users, via a web interface, Adobe Systems’ PDF files (Portable Document Format). A PDF is a “device-independent” document format designed to allow shared viewing and printing of a document, regardless of the viewer’s software platform. PDFs are ideal to allow users to view specific documents for content before ordering (regardless of whether they are ordering offset or digitally printed material) and support lower-resolution printing of documents from a desktop or laptop computer. Viewing PDFs has the added benefit of greatly reducing the cost and delays associated with ordering the wrong piece of collateral — users no longer need to reply solely on a catalog number and brief document description — with PDFs, users can actually view and print the document in question.

## How Does the Digital Demand Replenishment Model Work?

First, the fulfillment vendor and you should evaluate all collateral to determine which documents are good candidates for digital printing based, at a minimum, on the following categories:

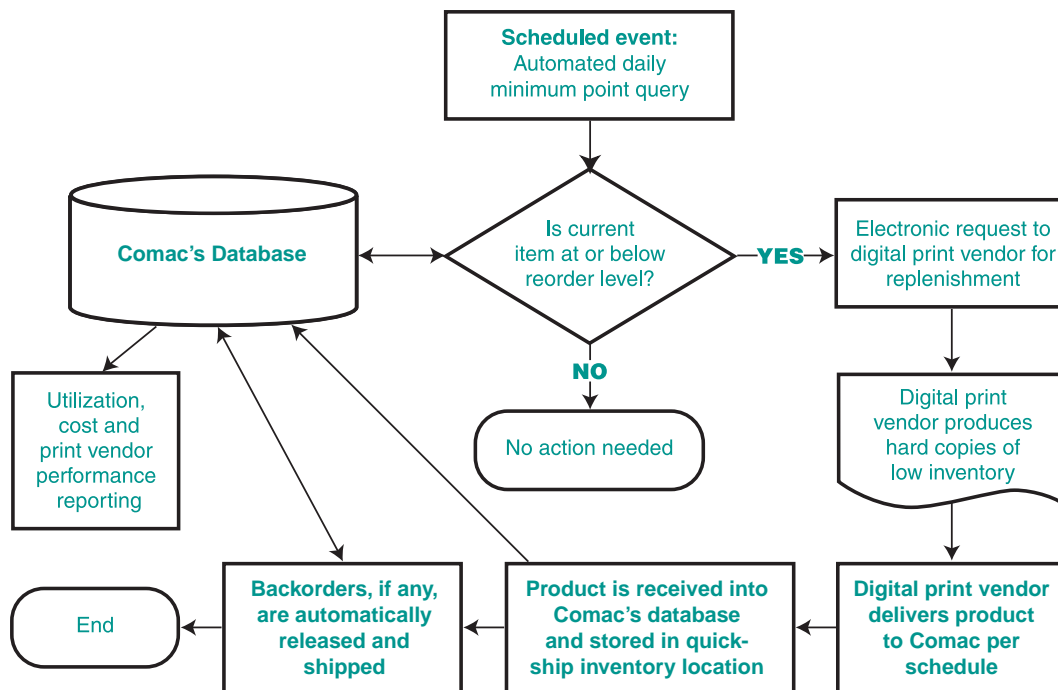
- Historical usage patterns and/or expected trends
- Color and finishing specifications
- Frequency of content changes
- Customization needs
- Costs of offset and digital print for each document based on the expected utilization
- Turnaround deadline

Then, the fulfillment vendor performs an in-depth usage analysis on those pieces deemed appropriate for digital printing to determine the economical reprint predictor. This numerical predictor is based on the ideal offset print quantity (for a specified document), which is high enough to gain the lowest unit cost for printing and keep material available for orders, yet low enough to minimize obsolescence. Once the predictor has been established, the fulfillment vendor loads that information in its inventory management database, which then automatically triggers a message to have a digital reprint executed at a specified quantity replenishment level. Once the trigger has been sent for a demand replenishment, the fulfillment vendor transmits a portable document format (PDF) file to the digital printer who typically completes the turnaround process in less than 48 hours.

The advantages of the digital demand replenishment model are numerous:

- **Minimize Delays.** Material is rarely on backorder because there is always enough on-hand material to “quick ship” plus, there is a cost-effective and time-efficient process for replenishing materials via digital printing.
- **Reduce Storage and Obsolescence Expenses.** Printing larger quantities on a digital printer does not reduce the per-item cost, therefore, there is no need to print overages just to take advantage of price breaks. And because digital printing is especially economical for short-run production, companies can print smaller quantities of those pieces that become obsolete quickly due to content changes. Only the material needed for quick response is stored in inventory — reducing storage and obsolescence costs.
- **Transparent to End Users.** Users can view documents (in PDF format) to determine the correct piece to order, which can be done via a web-based interface.
- **System Driven Process.** Once the minimum and maximum quantities have been established using the economic reprint predictor model, the fulfillment vendor’s system drives the replenishments — *automatically* — as well as reports on utilization and costs associated with your documents.


## Digital Demand Replenishment Workflow (for documents identified as POD candidates)



## THE FUTURE OF FULFILLMENT AND DIGITAL PRINTING

Digital printing is changing the way companies manage their printing and marketing strategies and budgets. Collateral no longer has to meet minimum “price break” quantities of 2,500 or more in order to be economically sound. And updates are much more time and cost feasible. What’s more, when thoughtful consideration is given to the way in which collateral is used, the cost of printing and total fulfillment (storage, obsolesces, etc.), can be substantially reduced while eliminating administrative headaches for marketing managers.

Digital print will also affect the way in which companies target customers. Digital print — or rather, its variable data capability — makes one-to-one marketing an economic reality. The combination of individualized letters with either standard or “versioned” brochures allows companies to focus much more on the targeted needs of their customers. Here, as with collateral development and printing, fulfillment plays a significant role. A fulfillment vendor that can help you manage your collateral fulfillment — from pick and pack to kitting of individualized packets, reporting on costs and targeting utilization — all while recommending the most cost effective method of printing — will certainly enhance to your bottom line.

Look for upcoming issues of *InfoTrak*, on topics including XML Transfer. 

<sup>1</sup>*Digital Printing: Mastering On-Demand and Variable Data Printing for Profit.* Frank J. Romano. ©2000 Windsor Professional Information, LLC