

## Pushing the envelope

Transaction printing is really database printing. A large part of database printing involves financial information, such as statements and invoices, that we call “transactional.” Promotional direct mail marketing, “promotional printing,” are also database printing, as is digital printing. Sheets or rolls may be preprinted but variable data printing is needed to put a database on paper.

In North America 35 billion pages of black-on-blank paper or black-on-preprinted shells are printed digitally each month. About 10 percent of all digital pages are printed using CMYK color. Twelve billion digital pages are monochrome transaction documents—phone and utility bills, bank statements, credit card statements, insurance docs, investment reportage, and more. Transaction printing in color is growing.

Overall, transaction printing volumes are declining, but other database volumes are increasing. The credit card market and the retail market have pushed the envelope into new forms of promotional marketing. Department stores and big box retailers are using coupons, customer relationship materials, and other printed incentives to get consumers to call, click, or visit.

Postal rate increases are an issue for everyone who mails, and such increases will affect mass mailings more than targeted mailings. Almost all digital printing is mailed, and postage is the biggest single cost in the whole process. Thus, companies using transaction printing have an incentive to either force customers into electronic transactions in order to reduce print volumes or to increase the value of the transaction document—making it promotional as well.

Less than 15 percent of the U.S. population has chosen Electronic Bill Presentation and Payment (EBPP). Some companies may charge customers for printing and postage as a strategy to reduce print volumes, but this can result in strained customer relations. A consumers’ group sued Nextel for charging \$2.50 per month extra for a printed bill. Nextel won the suit, but lost in the court of public opinion.

Statements, unlike other forms of mail, are usually opened, read, and kept. That

makes them a desirable marketing vehicle. Banks and brokerages often promote additional services to customers, using either messages printed on the statement or reply envelope or inserts stuffed in the envelope. Inserts have long been a feature of transactional statements.

However, statement inserts suffer the fate of junk mail—the trash. Messages printed on the statement may have limited marketing impact if the statement is printed only in black. Marketing messages printed in color, right on the statement, are in our future. Paid advertising by third parties is also a possibility. As the cost-per-page of color printing reaches five cents, some users can justify it. Financial firms, for example, are starting with limited volumes of color statements for high-net-worth customers.

Most statements are digitally printed on preprinted stock. This is also how most direct mail is printed. It is cost effective, but there is no ability to vary color images.

Transaction printing is usually done on continuous-feed monochrome devices that run at a few hundred pages per minute. The fastest toner-based color machines are not even close to this productivity level but that is changing rapidly. Inkjet machines now bring speed and color to database printing.

For confidential communications, 86 percent of us prefer mail as a channel of choice, as compared with only 10 percent for e-mail. Even with that fact, the future of high-speed monochrome machines is not promising. The transaction printing market has been the primary market for this equipment, with direct mail a distant second. It is now a replacement market, with little need for new capacity, and the conversion of transactional to promotional mail will see monochrome replaced with color printers.

### DID YOU HEAR?

- There are now 3.25 billion mobile phone subscriptions worldwide—half the world’s population. It took over 20 years to connect the first billion subscribers, but only 40 months to connect the second billion (The Mobile World).
- The market for printed and thin film electronics will be \$1.18 billion in 2007. IDTechEx forecasts the market growing to \$5.06 billion by 2011 and \$48.18 billion in 2027 (Organic & Printed Electronics Forecasts, Players & Opportunities 2007-2027).
- E-mail is now ubiquitous with 97 percent of all consumers and 94 percent of marketers using e-mail. Those who buy products marketed through e-mail buy 138 percent more than non-readers of e-mail marketing (Forrester Research “E-Mail Marketing Comes of Age”).
- Believe it or not: consumers are more responsive to junk mail. Snail mail beats out e-mail for certain communications, including business information (International Communications Research).
- A new study found that 81 percent of newspaper website users also read the printed newspaper (Newspaper National Network LP, conducted by Scarborough Research).
- The credit card industry is the largest mail solicitor. Average households receive 80 credit card solicitations per year. 150 credit card companies offering rewards fueled an increase of 6 percent in mailed customer acquisition pieces—9.2 billion mail pieces in total (Mintel Comperemedia).
- 83 percent of Generation X women and 73 percent of Generation Y women have Internet access at home. These women are the highest users of printed advertising inserts when researching where to shop (Vertis Communications).

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## SHORT TAKES: FACTS AND OPINIONS

A newly discovered microbe in a hot spring at Yellowstone Park, named *Candidatus Chloracidobacterium Thermophilum*, grows near the surface at a temperature of 122 degrees to 151 degrees Fahrenheit. The bacterium has light-harvesting antennae known as chlorosomes which contain about 250,000 chlorophylls each. It is the first aerobic microbe known to make two types of chlorophyll to convert light to energy. Plants and some bacteria use photosynthesis to turn light into energy.

*The Chia-car will have grass on its roof to provide photosynthesis for energy.*

Most of the biggest e-mail days are in the weeks before Christmas. In 2006, they included Cyber Monday (Nov. 27) and all three "Echo Mondays" (Dec. 4, 11, and 18)—the Mondays that follow Cyber Monday. Two of the three Echo Mondays were bigger e-mail days than Cyber Monday, which is billed as the biggest online sales day of the year. The biggest e-mail day of the year is the day after Christmas; more than 53 percent of the retailers tracked via "RetailEmail.Blogspot" sent e-mail on December 26, 2006 to capture gift card and e-gift card sales. Other high-volume e-mail days occurred in connection with tax day (April 17, 2006), Thanksgiving, Mother's Day, Father's Day, President's Day, Valentines Day, and Easter.

*You mean there is a science behind spam?*

The April issue of *Wired* magazine, owned by Condé Nast, urged subscribers to log on to *Wired.com* to upload photographs of themselves, with the promise that the first 3,000 to do so would receive July issues with their photographs as the cover art. *Wired* targeted current subscribers with the promotion and used e-mail, inserts, and ads on its own site to promote the personalized covers. In the first three days of the promotion, 11,000 readers submitted photos. Only the first 3,000 submissions were used on the magazine, but others were allowed to create and print mock covers with their own headlines on *Wired.com*. More than 35,000 people have made covers online.

*You have already been Time's Person of the Year.*

Three quarters of respondents prefer receiving new-product announcements via mail from companies they're already in contact with, while 18 percent prefer e-mail. Seventy percent prefer mail for unsolicited information and offers telling them about products and services from companies that they haven't engaged with. Eight-six percent of respondents prefer mail for bills, bank statements, and financial reports, while just 10 percent prefer e-mail. Consumers aren't as likely to discard unsolicited mail containing product information, although they will trash e-mail: 31 percent discard print mail while 53.2 percent discard e-mail. This category includes products like brochures and catalogs.

*Trash is trash, but some trash could be cash.*

Packaging is primarily a consumer-driven industry, and has growth rates averaging 3 percent annually and total output product value in the range of \$290 billion worldwide. This is a stable and reasonably predictable sector that typically follows the overall economy due to its close association with consumer purchases, says a recent InfoTrends study. Increasing demand for quick turnaround, as well as a proliferation of versions, create growth opportunities for technologies that facilitate on-demand package production.

*There are now 11 versions of Coke.*

In 2007 IDTechEx found that the amount spent on inorganic electronic components and inorganic materials for composite components will be \$482.7 million—metal flake ink used for conductors in heated windscreens, membrane keyboards and circuit boards, and disposable sensors for the 2.2 billion glucose sensor labels sold yearly. Also making an impact in 2007 are electrophoretic, electroluminescent, and electrochromic displays; laminar batteries; and thin film photovoltaics. By 2012 inorganic semiconductors will be 30 percent of the thin film semiconductor market versus 70 percent for organic semiconductors. In 2017, of a total \$48.18 billion market (printed and thin film displays, logic, memory, photovoltaics, power, and sensors), the amount spent on inorganic components as a whole or in composites with organics will be 40.3 percent or \$19.43 billion.

*I guess we will all need a degree in chemistry to deal with printed electronics.*

## MEDIA MATTERS

Joe Mandese, Editor of MediaPost says that business-to-business (B-to-B) media can no longer be described as the “trade press.” Because print advertising now generates less than half the revenues of B-to-B media companies. According to a compilation of 2006 revenue data released by American Business Media (ABM), “face-to-face revenue” has surpassed print advertising sales for the first time in the history of the industry. By face-to-face revenues, the ABM means conferences, trade shows, and events, which garnered \$11.3 billion among ABM members participating in the association’s Business Information Network (BIN) tracking reports. That brings events to a 36 percent share of B-to-B revenues, exceeding B-to-B print advertising’s 35 percent share for the first time ever.

The ABM estimates that events are the third fastest growing source of revenues for B-to-B publishers, surpassed only by the rapid rise of digital (online) advertising sales and custom publishing. Print advertising, by comparison, has been steadily declining.

Print advertising pages fell 3.1 percent in January 2007 over January 2006 while print advertising revenues were down 2.8 percent. The category hit hardest was media, with Movies/Radio/TV/Video ad pages down 10.8 percent.

“As business media companies continue to move into a multi-platform environment, the industry is experiencing growth in three out of four of its major segments: trade shows, customized media, and e-Media,” ABM President-CEO Gordon Hughes stated, adding, “E-Media has grown a remarkable 22 percent in revenue over 2005, followed by custom media’s 18 percent growth spurt, and trade shows bringing up the rear at a 10 percent growth variance over 2005. Although ad pages and revenue for January 2007 showed a decline of 3.1 percent and 2.78 percent respectively, as predicted, the business media industry now represents \$31.1 billion in revenues across all four platforms making the power of the brand at the heart of everything you do.”

Investment banker Veronis Suhler Stevenson’s (VSS) annual *Communications Industry Forecast* concludes that both consumers and marketers are rethinking their relationship with traditional, passive, one-way media. It distinguishes “new” from “traditional” media and estimates that new media accounted for 16.7 percent of all advertising spending last year—up from only 10.3 percent in the report’s baseline year—1999. Ad spending in new media (which VSS defines as cable/satellite television, satellite radio, B-to-B e-media, consumer Internet, movie screens, and video games) is growing at a double-digit rate, while spending for traditional media is rising only in single digits. VSS projects that new media will account for 26.3 percent of all ad spending by 2009—an estimate some new media pundits might find conservative given the rapid shifts in digital technologies. By 2008, Carat projects that 50 percent of all media will be digital, rising to 66 percent in 2010 and 80 percent by 2020.

Whatever the market shares ultimately prove to be, VSS says the forces driving change are clear: the expansion of digital media technologies, the shift toward consumer control of media—especially media supported primarily by consumer spending—and the shift toward greater ROI in marketing that is encouraging advertisers to use greater shares of new media.

During the advertising slowdown that followed the 2001 recession, for example, the VSS report finds that instead of “simply hunkering down and spending their limited media budgets on traditional advertising vehicles until the storm passed, marketers took a

hard look at their media spending patterns, and decided that they needed stronger measurements of their return on investment (ROI) in advertising and marketing campaigns. This increasing belief was only accentuated by the difficult economic times that had befallen corporate America.”

The same forces have driven consumers—especially families—to accelerate their cocoon mode and spend more time with non-advertising-based media such as home videos, video games, movies, and the Internet. Coupled with greater media fragmentation and growing consumer empowerment via technologies like digital video recorders, consumers have seized control. “They can now completely skip advertisements delivered through one of the most powerful advertising tools on the planet: television,” concludes the report.

Mobile and online advertising revenues in the U.S. are expected to total \$22 billion this year, and VSS forecasts that traditional media groups’ share will be 37 percent, up from 23 percent in 2000. By 2010, when Internet and mobile advertising is due to reach \$44 billion, traditional media companies are expected to capture \$17 billion, or nearly 39 percent, of the total. VSS said “There has been a lot of handwringing about media companies not staking any money in the online world but what the data show is that their position is better than we would have assumed. Traditional media firms have worked hard at finding ways to extend their reach online, and this is paying off.”

Media companies are making digital expansion a priority. High-speed Internet connections have made use of the Web a real alternative source of information and entertainment. Widespread use of social networking sites such as MySpace has increased the time younger people spend online. YouTube, a video-sharing site, has become a top online destination. Many media companies, recognizing the potential of the Internet to disrupt their traditional businesses, have made acquisitions to boost Web activities.

Although the websites of newspapers, television broadcasters, and cable channels are attracting viewers, traditional advertising spending in many of these sectors is, at this time, either barely growing or declining. It is still not clear whether traditional media companies will be able, in the longer term, to make as much money from online audiences as from their traditional audiences.

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## TITLES UP, PAGES DOWN

According to the Print Industries Market Information and Research Organization there are more magazines, and more new magazine titles, appearing each year than most reports indicate. The study identified 26,140 magazine titles, of all types and frequencies, published in North America during 2006. Of this total, 16,050 were U.S. consumer magazines and 7,270 were U.S. business magazines.

All of these titles had been published regularly for at least a year (or, in the case of annuals, had published their second edition). This is the largest and most inclusive number of titles ever specifically identified and demonstrates the breadth, depth, and health of the magazine industry. During 2006, 1,200 new consumer titles were born in the U.S., including 900 consumer titles as well as 300 consumer educational, affinity, and custom publishing titles.

Of the new consumer titles, almost two-thirds were annuals, including annual specials, while almost a third were issued four or more times a year. Fifty-five new business magazine titles were added in the U.S. One hundred and ten new consumer titles and five business titles were added in Canada.

By 2011, the study forecasts that the number of titles of all types will continue to grow to over 25,000 in the U.S. and 3,000 in Canada. However, the study forecasts a 10 percent decline in total pages included in all North American magazines in the next four years.

## INKJET MAKES THE CIRCUIT

Scientists in Britain have succeeded in printing electronic circuits using a standard inkjet printer. Cell phone antennas and RFID chips were the first products printed using new technology, as reported by *New Scientist* magazine. This isn't the first process that allows printable circuits, but it is the first such process that uses water soluble agents and is consequently environmentally more friendly.

To print the circuits, two different ink chambers of a standard inkjet printer are filled with a silver nitrate solution and vitamin C (ascorbic acid).

The circuits are printed with the silver nitrate solution and then the vitamin C is used as a reducing agent to fix the pattern as solid silver. Because inkjet printers rely on ink bleed to form solid images from ink dots, the circuits worked best when they were printed several times to increase the connectivity, and thus the conductivity, between separate silver dots.

The process doesn't yet produce circuits that provide as low a resistance as traditional etching processes. Currently circuit boards are created by chemically etching metal away, leaving the designed circuit, a subtractive process that creates substantial waste and can be energy intensive.

Printing the circuit, on the other hand, just puts the metal where it is needed. With environmental and energy benefits, the search for an industrial-scale version of an inkjet circuit printing process will undoubtedly continue.

# EDS*f*

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*Pushing the envelope*

*Media matters*

*Titles up, pages down*

*Inkjet makes the circuit*

*Short takes*