

The New Push to Get Rid of Paper

Three decades after "paperless office" entered the business lexicon, the financial and environmental need to reduce paper is greater than ever

by Arik Hesseldahl

Thirty-three years ago this month the phrase "paperless office" entered the business lexicon in a BusinessWeek article titled "The Office of the Future." In the article, George Pake, the legendary head of the Xerox (XRX) Palo Alto Research Center (PARC), foresaw technology that by 1995 would let computer users summon on-screen documents "by pressing a button," eliminating the need for much if not all the printed paper cluttering workspaces.

Pake's vision was half-right. Offices brim with network-linked computers, loaded with software that lets users create, read, duplicate, and distribute digital documents. But the dream of a workplace where all that technology would eliminate the need for printed documents remains just that—a dream.

Indeed, some of the very machinery that makes paper theoretically obsolete has helped make it all the more ubiquitous. Devices that scan and convert documents to a digital format double as printers and copiers—and they've become so small, cheap, and easy to use that they're on—or near—every desktop. "The decision to print has gotten much closer to the owner of the document," says David Pineault, a paper economist and analyst at consulting firm InfoTrends. According to RISI, a research firm that tracks forest products, in 1975 the average U.S. office worker used 62 pounds of paper a year. By 1999, that figure peaked at 143 pounds, but in 2006 it was still at 127 pounds.

Think Before Printing

Three decades on, the financial and environmental imperative to reduce paper use is all the more real. Last year, U.S. companies printed 1.5 trillion pages, according to research firm IDC. That's a 95,000-mile-high stack of paper, or the equivalent of 15 million to 20 million trees. RISI analyst John Maine estimates that companies will spend about \$8 billion this year on paper alone; that doesn't include costs for ink, toner, or running copiers, printers, and fax machines. In the typical office, for every dollar spent on printing documents, companies incur another six dollars in handling and distribution, according to Xerox.

Little wonder that the will to go paperless remains strong in parts of Corporate America. It's showing up in ways big and small, from admonitions at the bottom of e-mails to think before pressing the print button, to notes posted alongside

printers asking whether all that printing is really necessary, to companywide crusades to reduce paper use.

Pittsburgh-based PNC Bank (PNC) is among financial institutions doing their part by sending electronic statements and credit-card bills. "As late as five years ago everything we did was paper-based," says Doug Lippert, a PNC vice-president. "Our customers started asking for paperless statements because they're used to having their information available immediately."

PNC Turns to PDF

After a series of promotions, 15% of PNC's 3 million retail customers began getting their statements delivered by e-mail as documents in PDF, or Portable Document Format, a system developed by Adobe Systems (ADBE). In addition, 80% of internal company reports are created and filed electronically. The company began printing all other documents on both sides of the page by default, and replaced printers and copiers with multifunction devices that combine the jobs of a printer, copier, scanner, and fax machine into a single unit. Companywide paper use dropped by 20%. Lippert declines to disclose specific cost-saving figures but describes them as "substantial." Postage for mailing statements alone cost more than \$1 million a month, Lippert notes.

Savings for other companies could be substantial too, though many don't pay close heed to paper-related costs, says Forrester Research (FORR) analyst Craig Le Clair. Printers, copiers, and fax machines have a funny way of multiplying haphazardly. One company advised by Le Clair thought it had 150 fax machines, but a detailed search turned up 1,000, many of which were rarely used. And how vital are those printed documents, anyway? Researchers at Xerox found that about half of the documents printed in a typical office are thrown away within 24 hours.

Of course, some of the financial and environmental benefits of reducing paper use may be offset by the power and bandwidth consumption by machines that handle digital document creation and distribution. But that's not deterring many businesses from attempting to reduce paper waste.

Imposing Limits on Employee Printing

Other methods of limiting paper use include restricting the number of printers per employee. Printers are usually shared by two or three employees, but boosting the employee-to-printer ratio to about 8 to 1 slows paper consumption by making printing that much less convenient. "CIOs are realizing how much waste is generated by their printers and copiers and fax machines," Le Clair says. Valerie Mason-Cunningham, a Xerox vice-president, says it's not uncommon for companies to find they can cut costs related to documents by 10% but in some cases as much as 40%. "Everyone thinks about reducing printing costs, but that's just the tip of the iceberg," she says.

Some companies track who's printing what and in some cases impose monthly limits on how many pages an employee can print. PrintAudit is a Vancouver-based maker of software that tracks how printers and copiers are used. "Once you have that information you can help the customer figure out where you can reduce costs, according to a set of rules," says PrintAudit President John MacInnes.

PrintAudit sells its software to large office equipment vendors like Xerox and Ricoh that in turn offer it as an option to customers. MacInnes estimates PrintAudit software is in use by a half-million people at companies around the world, and collectively their paper savings amount to about 90,000 trees a year, he reckons.

Digital Signatures Pave the Way

Anyone who's even come close to buying a house can attest to the mountains of paper amassed by the mortgage industry. Peabody (Mass.)-based 1-800 East West Mortgage cut its annual paper use by two-thirds, in part by using a Xerox product that replaces paper with Web-based forms, digital disclosure documents, and electronic signatures, says Gary Roche-Bernard, the company's director of information technology. Funding turnaround times went from an average of 15 days to 4, storage costs dropped by 75%, and the number of leased copiers went from 12 to 6. "There have been studies that put the paper costs of mortgages at \$250 to \$300," says Judson Phillips, a Xerox vice-president. "We can get those costs down in the low teens on a typical mortgage."

Clearly, paper isn't going away any time soon, says Richard Harper, a Microsoft (MSFT) researcher and co-author of *The Myth of the Paperless Office* (MIT Press, 2001). Paper, he argues, allows the kind of collaborative work that makes the modern office more productive. We can pick it up and hand it to another person, spread pages of a document out before us, and consider each page out of order or in ways that aren't possible on a screen. "One might argue that the mind better grasps an argument when it has physical properties," Harper says.

But as more companies grasp the ease and cost benefits of going paperless, change will come. "It always takes longer than we expect to change the way that people customarily do their business," opined tech executive Evelyn Berezin back in that 1975 article. She should know. At the time, she was president of Redactron, then the second-largest supplier of word-processing typewriters behind IBM (IBM).

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