When the personal computer became pervasive in the workplace, many people predicted that paper would disappear. That didn’t happen. Now the Web has become pervasive, and we need to ask the question again: What is the future of paper? In this article, I explore four questions related to this topic.

1. **How are people looking for information today?**

   What is your strategy for seeking information? Where do you turn when you have a question, want to research a new topic, or need help with a task? Did you say the Web?

   *For some topics, the Web is the clear choice.*

   In many situations, the Web has clearly become the major source of information—the place people turn to first. For example, U.S. adults 18 to 64 years of age use the Internet far more than any other source when looking for health information. In the Health Information National Trends Survey (HINTS), the U.S. National Cancer Institute has collected information on health communication and several other topics from a nationally representative sample of the American public (cancercontrol.cancer.gov/hints). Figure 1 shows the answers that HINTS respondents gave to the question “The most recent time you looked for information on cancer, where did you look first?” Sixty-one percent of respondents 18 to 34 years of age and 49 percent of those 35 to 64 years of age went to the Internet; only for people age 65 and older did other sources, such as books and health care providers, match the Internet as the primary source of information.

   **Young users are very Web-oriented.**

   In a recent study done by an STC colleague, university students were trying out an online catalogue of materials to
eral STCers have told me that—to their dismay—developers don’t go to the help that is built into their development tools. Instead, the developers turn to the online equivalent of asking a colleague. They go to a listserv or to a developer’s forum, where they can search a database of problems/solutions or ask a question and get responses from other people who have dealt with the same situation. The Web is more than documents: It offers community.

But some STCers still find their customers want printed documents.

When I put a question out on the listserv of STC’s Usability and User Experience Community about the primary channel people use for information, I got very mixed responses. Some of our colleagues insist that their customers have not yet accepted Web-based documents. Jay Rush of C-COR writes, “We find that many of our customers… still like a printed manual… and we also value providing our customers with usable (printed) manuals.” B. J. Foster of Vertex Systems explains that their customers, nonprofit organizations serving disabled populations, are often not adequately wired, and many employees of those organizations don’t have Internet access at their desk. JoAnn Hackos, former president of STC and head of the Center for Information-Development Management, tells me that she did a small informal survey not long ago, and the 30 respondents all said that their technical customers would not let them abandon print.

So, is it that technical customers working with specific products want print manuals while typical consumers and laypeople looking for information (on health, travel, drugs, and so forth) go to the Web? Or is it that we haven’t yet figured out how to deliver technical information to external customers on the Web in ways that work for them? Or that we don’t yet have the tools to do a good job of delivering information—of doing more than making the Internet a delivery mechanism for online books? We’ll return to this issue, but first, let’s move from Internet to intranet.

Figure 1. Answers to the question “The most recent time you looked for information on cancer, where did you look first?” separated by age group. (Data from the Health Information National Trends Survey. Adapted with permission from Figure 1b of Hesse et al., Trust and Sources of Health Information: The Impact of the Internet and Its Implications for Health Care Providers, submitted for publication.)

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use in researching papers. The online catalogue helped them identify books that they would then go to a library to peruse. They liked the catalogue—but not the outcome. Often, the researcher heard the following from these students: “Why isn’t all the material this catalogue leads to digital? I don’t want to deal with paper if I can help it. I want to see the information online and print only the pages that I need.”

The Web offers community, and sometimes that’s better than a help file.

Where do your developers and customers turn to for information? Sev-
Is the primary channel inside a company different from the one between the company and its external customers?

In work settings, do you turn to printed company handbooks or to the intranet? Are memos distributed on paper or electronically—either through e-mail or posted on the intranet? Are you using your company’s intranet for most of your information—from questions about benefits to finding out about events to looking for phone numbers to getting the latest versions of documents?

In many companies, the intranet has supplanted paper resources.

Tanya Bumgardner of Life Care Centers of America may be speaking for many of us when she writes, “Our company would be crippled if our intranet portal went down for any length of time now. In the past, some saw our portal as just an online backup of printed materials, [but that’s not true now].” She gives us some statistics: In 2002, Tanya’s company’s intranet was averaging 55,000 hits a day; in 2003, 69,000; in 2004 so far, 98,000. And Tanya adds, “A lot of our printed newsletters and phone number directories are now also being published in our portal instead of us printing them and putting them in everyone’s mailbox.” Is that what’s happening in your company, too?

Quality assurance may require using the Web.

Caroline Jarrett, a technical communication and usability consultant in the U.K., tells me that one of her major clients with very large development teams now has all of its requirements documents on its intranet. She reports that these documents now say “Any printed version is uncontrolled. For the current version, go to the intranet.” As Caroline says, “For those of you who are into ISO 9001 (etc.) quality systems, this is a Big Deal as it implies ‘you must work from the intranet version and you may be In Big Trouble with the quality auditors if you do not.’”

Does a move to the Web mean no more paper?

Just look around your office, your cubicle, your home workspace, your colleagues’ spaces. You know that paper has not disappeared. However, we get and use the paper in different ways than we did in pre-Web days.

Paper is coming from a different source.

Much of the paper we use now is not coming to us in handbooks, manuals, memos, or reports that are already printed. We are printing most of this paper ourselves from an electronic source—an e-mail message, an attachment to an e-mail, or information we find on the Internet or intranet.

In The Myth of the Paperless Office, Abigail Sellen and Richard Harper report that “between 1988 and 1993, the worldwide installed base of copiers increased by only 5 percent, whereas the worldwide installed base of printers increased by 600 percent.” That difference is probably even greater today, as home computers and inexpensive printers have proliferated in the past decade.

Obviously, books have not disappeared entirely, nor would we want them to. In this article, I am not talking about novels, textbooks, or even trade books that cover materials readers might want to go through carefully from beginning to end. I am talking about the type of “reading to do” materials that most of us write—manuals, instructions, catalogues, reference documents, short articles on specific topics, even reports. That’s what people look for on the Web. And when they go to the Web, they do not want to print out the entire manual, the entire catalogue, the entire document.

People like to print only what they need when they need it.

When you sign up for STC’s annual conference, you can choose to receive your copy of the conference proceedings as a printed book or as a CD. Seventy percent of us choose the CD; only 30 percent choose the book. If you are one of the 70 percent, ask yourself why. Because the CD takes up less space in your luggage and on your shelf? Because you can search it in many ways? Because you can print just the papers that interest you? Because it is easier to go back to later when you might want a topic you didn’t need before? Do you use the archives of presentations that go on the STC Web site after the conference more than you ever used the paper proceedings?

A similar organization, the Usability Professionals’ Association, offers its proceedings only on CD. In 2003, when it also offered a paper version (for additional cost), only a handful of attendees asked for one. This past year, no one requested a paper version. What people do request is a searchable online archive. We—and our users—expect material to be on the Web. If we print it at all, we prefer to print just what we need.

Users create their own personalized manuals.

Lots of people put together their own manuals (“cheat sheets”) by printing just those parts of documents that are relevant to their work. This is the modern equivalent of putting sticky notes into the printed manual to mark the places that you keep coming back to—but now you can select what you need without having to take all those other pages that aren’t relevant to your work.

Whitney Quesenbery, former man-
Paper—even from the Web—still has value.

We can all recite the continuing benefits of paper—it’s portable; it can be shared offline; it can be marked up. The people in the HINTS survey who go to the Internet for health information may well be printing out what they find—to take with them to a doctor or to pass on to a relative or friend.

But even searching for a friend may not lead to paper.

In a usability study that I did almost a year ago, I was testing the Web version of cancer information booklets. On each page of the HTML version, there were buttons for options to print the Web pages, go to a PDF version (the original paper booklet online), or order a free copy of the original paper booklet. Partway through the session, we gave participants this scenario: “You like what you have seen here and would like to have a copy for a friend. How would you do that?” Four of the six participants said they would e-mail the URL rather than using any of the options that were offered.

We see very little effective use of the Web with HTML-based interfaces.

How is the Web changing the role of some documents?

Let’s return to the question of why so many technical publications departments have not moved as much to the Web as we might expect. Are customers’ needs really driving the continuation of printed manuals? Or are we not delivering really useful Web-based information?

JoAnn Hackos’s take is that “the move to the Web has been quite problematic.” She explains, “The ubiquity of PDF on the Web decreases the usability of the content and makes search considerably more difficult. Many Web sites do not have adequate search engines, nor do they have metadata to support parametric search. They impose huge PDFs on the users, with long download times. We see very little effective use of the Web with HTML-based interfaces.”

Should we be creating databases rather than manuals?

In “Writing for the Web: Letting Go of the Words,” a June 2004 Intercom article, I suggested that we technical communicators need to get out of “document mode.” What users really want is information, not books. We all know that users typically go to manuals only when they have a specific need—a specific question, a specific task to do, a specific problem to solve. They don’t want the book; they want the one page in that book that meets their immediate need. Books are logistic solutions to a mass audience; they are not a good medium for a large file of disparate pieces of information so that those pieces of information (if you will, a stack of index cards with one question, one task, one problem/solution per card) don’t float separately all around the office. But on the Web, we don’t have to bind all those disparate pieces of information into a book. A much more logical structure for the type of reference information that goes into a typical user manual is a database.

Some companies—Hewlett-Packard, IBM, Intuit, Microsoft—are creating those databases. And yet many are still in book mode. Does that really support customers best? And meet customers’ needs best?

Should we be rethinking other documents as they go on the Web?

Other documents, too, take on different lives online. Take press releases, for example. The “life span” of a press release is vastly different today than it used to be. Traditionally, a press release went to a limited audience of media specialists. It had a short life expectancy. The story behind the press release was either picked up and used within a very short time or the press release was discarded or filed away.

Longer lives and broader audiences.

Today, press releases live forever in the archives of a Web site. And they have a much wider audience—far beyond just media specialists. Does your company or organization have “news” on its home page? Who is reading that news? Who is clicking on the link that goes from the latest news to the archive of old news items? Isn’t your company welcoming a general public audience into the realm that once was meant only for media specialists? Have you thought about what people use those press releases for if they aren’t immediately turning them into newspaper articles or TV or radio segments?

Different uses.

In fact, press releases are being used by an audience well beyond the media specialists for whom they were originally written. One of the usability tests that I conducted last year was for a site with papers and reports on policy and research. The intended audience—and the participants in the usability test—
were policy analysts, other researchers, and librarians who help these people find resources for their work. Half of the participants told us that they usually went looking first for press releases. They looked for a link to a Press Center, News Center, or Press Releases to discover whether the group had put out anything recently on the topic in which they were interested. And, if there was a press release on the topic they were looking for, they used it as a summary of the report—to decide whether they wanted to bother finding the actual report. They wanted the press release to have a link that took them directly to the report. They did not want to have to go back to the home page and search or browse for the report.

**Therefore, different formats.**

Press releases have a traditional format: a title, and then a page or so of paragraphs with no internal headings. They usually give a name and phone number of someone to contact for more information. If they are summarizing a large report or a scientific paper, they may give the complete reference, but, as paper documents, they aren't linked directly to any other information. With their different audiences and different uses on the Web, press releases might also need different formats and different attributes.

**A case study.**

In another usability test that I helped with last year, one small aspect of the study was a comparison of different versions of press releases. This was an exploratory study, with just twelve participants. The participants were members of the general public, medical researchers, and patient advocates. None were from the media, so our results must be considered preliminary. We don’t know whether media specialists would react in the same way as our sample audience did.

We compared a press release in the traditional style and format with one that had features of “writing for the Web.” The traditional version is shown in Figure 2. It looks like the paper document. The nontraditional version is shown in Figure 3. The text is broken up with bold headings. It is in the template of other pages on the Web site, so it has a much shorter line length than the traditional format. It also has links on the side to allow users to move from the press release to relevant sections of the Web site.

Ten of the twelve participants were strongly in favor of the newer format. Of the other two, one preferred the original format because he always prints out press releases; the other preferred the traditional format for reading online.

The ten who favored the newer style gave these reasons, among others, for their preference:

- “I don’t have to read everything. It tells me where a change of section is. I can start a section and if I decide it is not relevant, I know where to skip to.”
- “I can scan it more easily. It’s faster to tell if you’re interested in it. It makes me want to read it. The headings invite me into the paragraphs.”
- “I can get the bottom line quickly.”

Are you considering the Web lives of your documents and how those Web lives differ from their paper lives? Are you setting up your documents to be easy to use on the Web—or at least setting up the Web versions of your documents to take advantage of what the Web allows? Are you being as creative as you can in thinking of the future?

**4 What are the implications of these changes?**

**Printer-friendly pages.**

The move to the Web as the source and repository of information is going to continue and grow. When we realize that much of the paper we are generating is printed Web pages, we should also realize how important it is to make printing Web pages easy for users—without wasting a lot of ink on deeply colored navigation bars and without losing the end of every line. Users want the type of printing you can provide by carefully setting up printer-friendly scripts and putting an icon and link on your Web pages.
Not just PDFs.

Of course, PDF files that produce pages identical to the carefully designed pages of a printed manual or report are one way to solve the problems often encountered when trying to print plain HTML pages. But PDFs have other problems. They are books online; they aren’t Web-based information. They often offer much more information than users want, and many users do not know how to search within them or print just the pages they want.

Content management systems that work well for writers.

The only way to achieve the goal of having both paper and Web formats for the same information is through a content management system (CMS). Without such a system, a technical publications group has no effective way to bring out content in multiple formats, keep track of what it produces, and stay in control of changes. However, most attempts I have witnessed to bring content management systems to Web sites have failed miserably. The primary reason for those failures is that the CMS is seen as a technology solution. All the decisions about requirements and choices are typically made by technology people with insufficient input from technical communicators or inadequate understanding of communicators’ needs. We have to be part of planning for a CMS from the very beginning.

Better communication between documentation groups and Web groups.

In some companies, documentation and the Web are owned and coordinated by different groups. They may even report up different chains of command. Better coordination, communication, and collaboration are needed to make documentation and Web groups understand how they can help each other. Technical communicators have a great deal of expertise that is relevant to both content-rich Web sites and Web applications, but they also have to learn how to write for the Web and create effective HTML-based Web sites out of databases of information.

New challenges and new opportunities.

Doing away with large tomes of information does not mean that technical communicators will be out of a job. In fact, it is a way of keeping our jobs. Moving information into the Web (into real Web pages, not just PDFs) presents new challenges, new opportunities to learn and to show our value, and new ways to be creative. If we think of ourselves as experts in communication—not just as skilled users of specific tools—we will realize that we can help with many types of communication.

Suggested Readings

