Videotex and teletext in the business/consumer marketplace

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ABSTRACT

The impact of interactive television in the marketplace will change our perception of the home television set from that of an entertainment medium to that of an informational mechanism at both the consumer and business levels. A review of the development of videotex and teletext in the United States and abroad highlights significant contributions of the various technologies shaping this rapidly evolving industry. As reflected by the rapid growth of the U.S. Videotex Industry Association, the potential of videotex is being tracked by a broad spectrum of interested parties—from the individual PC user to the corporate board at AT&T. The videotex revolution will profoundly change our lifestyles and will bring instant information-on-demand into our homes and offices.
I appreciate the invitation to participate in the 1983 National Computer Conference and particularly this opportunity to discuss one of my favorite subjects—the future of television. I believe interactive television—videotex and teletext—to be the future for television in the United States and around the world. Why should I talk about television at a data processing conference? Primarily to drive home the point that the separate worlds of data processing and video are rapidly converging. Major U.S. data processing vendors are obviously serious about videotex and are gearing up for the U.S. market. Suppliers, including IBM, DEC, Perkin-Elmer, Computer Automation, ADP, Amdahl, Atex, Hewlett-Packard, Tymshare, and nearly 150 other firms, are marketing videotex systems and services in the U.S.

I have been asked to give an overview of videotex and teletext and to discuss briefly some of the activities here and abroad in both the business and consumer marketplace that may affect you as a data processing professional and as an individual citizen. This is a pretty ambitious aim for a short session. Videotex is difficult to define in 25 words or less, and it has been said that teletext is easier to use than it is to explain. Perhaps the best I can hope to accomplish is to hit the high points and suggest that for an in-depth understanding of this rapidly evolving technology, you could contact the Videotex Industry Association or one of our member firms who are pioneering applications in the U.S.

If the generic term videotex is not familiar to some of you, the names of particular systems, such as Ceefax, Oracle, Prestel, Antiope, or Telidon, are more likely to have a familiar ring. This is no accident, for there are powerful commercial forces (some backed by national governments) hard at work marketing their particular technology to almost anyone who will listen.

The reasons for this are not difficult to discover. It is widely believed that videotex and teletext will become as common as entertainment television in the American household and that the necessary electronics will be directly incorporated inside television sets of the future, permitting the user to send electronic mail to friends, to order goods and services, to obtain information on an almost limitless variety of subjects—both topical (such as news, weather, airline schedules, or stock market information) and nontopical (such as one might find in encyclopedias or do-it-yourself books)—and to play games, either with a computer or with other humans.

There are still a lot of important unanswered questions, such as how quickly the market will grow and, when it does, what the predominant uses of such systems will be. Will telephone companies or cable television systems be the predominant carrier? Is there a danger of system-operator or information-provider monopolies developing? It sometimes seems that these marketplace questions are ignored in the rush of the principal contenders to establish their technology as the standard for videotex or teletext communications. The current situation is reminiscent of the negotiations surrounding the adoption of the NTSC color television standard in the United States and of the subsequent competition between NTSC and the PAL and SECAM standards worldwide.

Clearly, the standards issue is an important one. It would hardly make sense if consumers had to buy several different electronic devices in order to have access to the people and information banks of their choice, or for information providers to have to format their information in a variety of different ways and store them on many different systems in order to approach universal coverage. There are still countries in which there are two competing telephone systems, but such countries are not held up as models of sensible behavior, even by the most ardent free-enterprisers.

In Europe, the issue of standardization of videotex and teletext has been handled with relative ease. In France, both the broadcasting system and the telephone system are government owned and controlled and the same is true in Britain, with the exception that on the broadcasting side there is an independent television authority (although even there it is the content of the television programs that is independent, not the technical standards of transmission). Thus, videotex and teletext standards have been effectively set by government decree or consent in Europe. Perhaps most significant, however, is the fact that these countries have adopted systems in which the videotex and the teletext formats are mutually compatible, thereby making it possible to design inexpensive receivers capable of handling both broadcast teletext and two-way videotex services. And it's far more likely that TV sets will have an inexpensive decoder built inside the set than that they will ever have an outside appendage such as a videodisc or personal computer.

Let me share a few relevant statistics about American television:

1. Today, there are over 80 million television households in the United States.
2. The average American watches television four hours a day.
3. The average U.S. household watches more than seven hours of television a day.
4. The average American spends only 25 to 30 minutes per day on print—newspapers and magazines.

Clearly, with these numbers—if people are in front of the television set for that many hours—there's an opportunity to use the television set for more than just entertainment. The
perception of what the television set represents in our homes is changing. In the 1970s, people still thought of TV as a way of receiving just three or four television channels. In recent years, cable television has introduced dozens of channels and all kinds of nonentertainment services. In the United States, Kodak stopped making its 8 mm and Super-8 film products because they, like a lot of others, think that in the future home movies are going to be videotaped and displayed on the TV set. More important perhaps is that electronic games and personal computers, which use the TV set as a display device, are already changing our perception of what the set is.

All of these—cable, pay cable, VCRs, videodisc, personal computers, and video games—are changing our perception of television, which will make it a lot easier to use the TV set as an informational mechanism. On a broad international scale, interactive videotex and teletext systems are being studied, tested in field trials, and introduced as regular services at both the business and the consumer levels. Among the technologies employed internationally are the following primary systems:

1. Prestel (Viewdata) in the U.K. and several other European countries
2. Bildschirmtext in the Federal Republic of Germany
3. Antiope/Didon in France
4. Captain in Japan
5. Telidon in Canada
6. AT & T’s PLP in the United States.

Although there are some significant differences between these systems, national and international efforts are under way to develop compatibility for communications and applications interchange. It now appears that the major European systems will adopt a hybrid compatible system known as CEPT and that North America will rally around a proposed standard based on PLP. Furthermore, the U.S. delegation to CCITT recommended the creation of a Unified Presentation Layer, based on open system architecture, to accommodate both the European and North American formats and to set the stage for one global international videotex system that can be used as the telephone system is today.

The fact that compatibility issues are being addressed in a responsible way before videotex and teletext penetrate the U.S. marketplace is a healthy sign. It has taken years for the computer manufacturers to fully appreciate the synergism of compatibility in building a market where the whole is truly greater than the sum of its parts. As a marketer, I would prefer to have a fair competitive share of a large market than all of a tiny one. In your profession, it is probably easiest to think of videotex as perhaps the ultimate extension of the concept of distributed data processing. In the early 1970s, the computer industry realized that using minicomputers to provide distributed processing and information storage (as a complement to a centralized data processing facility) could improve the efficiency and productivity of computerization. Distributed data processing has gained wide acceptance for many applications and it is now the preferred solution in most cases. Until now, users of distributed data processing have been driven by the desire to have an internal information and transaction processing network within a company, particularly when that company is geographically dispersed. The cliche “user-friendly” has come about because the users of distributed data processing often have no knowledge of computer systems.

Digital Equipment Corporation was one of the first companies to recognize the potential of distributed data processing and today commands a major share of that market. Today it’s worth noting that DEC already has established itself as a pioneer in videotex. According to the Link Research Division of International Data Corporation, DEC computers are serving as hosts for a majority of videotex and teletext systems worldwide. It’s also notable that Digital was a founding member of the Videotex Industry Association in this country.

Videotex becomes the obvious extension of distributed data processing as lay users extend their information requirements to external databanks (such as a stockbroker or bank account) and the computer terminal gives way to the friendly 19" color television set, suitably equipped with an intelligent decoder. The benefits that videotex bring to business data processing are friendly interface and simple graphics systems that can be appreciated by a very wide nontechnical audience and the immediate potential of extending applications into the consumer marketplace. Remember, not every consumer is a businessperson, but every businessperson is also a consumer.

Last fall the Dow-Jones publication Barron’s ran a cover story entitled “The Videotex Revolution,” and called this new medium the last great electronic adventure of the 20th century. The message of that article was clear: The videotex and teletext business is following the same development pattern as telephone, broadcasting, and data processing. Like those technologies, videotex will take about 20 years to mature. Since the British introduced Prestel about 10 years ago, videotex should gain commercial success in the 80s.

Videotex will change the way people make money and the way they spend it. Half of the U.S. work force is already engaged in service-related industries; minicomputers are already enabling many people to tele-commute instead of commuting to the office. Stockbrokers, architects, designers, writers, data processors, and secretaries may perform their jobs using videotex. Retail spending habits will shift once teleshopping in electronic malls surpasses brick and mortar stores in terms of product variety, economy, and convenience. Transportation patterns will also change. There will be fewer trips to banks, stores, and the post office, but more reliance on distribution systems that can process electronically ordered merchandise.

The businesses that accurately predict how these life styles will change can profit from the videotex revolution. The data processing managers who expect to sit around and wait for this new medium to develop and who count on finding pat formulas available at exactly the right moment will find themselves unprepared and outdated.