

## PRINT PRODUCTS INTO ELECTRONIC PRODUCTS: A STRATEGIC APPROACH

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Electronic publishing has emerged as the logical heir to print media. Separating hype from financial reality is particularly hard when talking about electronic publishing because technology-driven businesses have a built-in tendency to disconnect themselves from everyday, hands-on experience. Nothing is quite so familiar as print publishing's paper and pencil, a book or a magazine. At the doorstep of the 1990s, electronic publishing is a term which applies to broadcasting, software, satellite data transmission, the desires of AT&T and the Baby Bells, online timesharing services like CompuServe, compact-disc read-only memory, write-once read-many optical drives and closed circuit televised prize fights. By necessity we have to narrow our field of focus to a definition of electronic information that is manageable and related to the process of producing printed media.

Electronic publishing is the process of creating, delivering and manipulating computerized data. Then the key concept is computerized because through the process of computerization, technology of hardware and software has given the publisher new capabilities.

Publishers approach electronic publishing from one of two possible approaches:

- A print orientation with added functionality. Electronics enhance the print-oriented process and capture text for possible electronic applications
- An electronic orientation with flexible product options.

As you know from previous speakers at this seminar and from your own experiences, there are numerous reasons why a publisher moves toward electronic information products. Among the most common are:

- The customers want an electronic product (market driven)
- The need to make better use of information because electronic publishing allows the publisher greater flexibility in shaping and making information products (factory driven)
- Rising distribution costs have to be contained and **electronic** products promise some economies
- Rising production costs demand that the new technologies replace older methods.

According to a 1988 survey in Catalog Age about 53 percent of the respondents claimed that they do not have a specific long-term strategy other than taking advantage of changes and trends as they **unfold**.<sup>1</sup>

Thus, the problem electronic publishers face is that they embark on a technology-based journey without a map. I'm not sure who made the observation "**You** can't get where you're going if you don't know where to **go**," but it is particularly apt for electronic publishing. Electronic publishing can be a punishing mistress if not managed.

### Ways to Get into Electronic Publishing

Print publishers have a number of different ways to take full advantage of electronic publishing opportunities.

First, electronics can be used to facilitate the publishing process. The resulting products are print but the process takes advantage of computer technologies. Second, electronic products can be produced using the print product recast into an electronic form. Third, an electronic product can be engineered from the ground up. It's safe to say that most print publishers have embraced certain aspects of electronic publishing enthusiastically. Word processing, optical scanning and computerized typesetting had immediate and direct contributions to make to print production. Although the experiences of individual publishers may have been mixed, overall these technologies facilitated traditional print publishing processes. Their widespread adoption by large and small publishers is a direct result of their reducing costs, speeding production or replacing inefficient methods with more modern techniques. Let's look at two success stories.

#### The New York Times Case

Probably the best-known electronic product is the full-text of the New York Times which has been available exclusively on Mead Data Central's NEXIS timesharing service. The electronic version of the Times has two forms. There is the full-text database (sometimes called a file) which includes every word in the daily paper with the exception of advertisements and images. The Times also prepares a brief bibliographic citation and abstract of the articles in each day's paper. Revenues for the database are not made public, but reliable information industry estimates suggest that the database produces well over a million dollars per year to the delivery company (Mead Data Central) and an equal amount to the database producer (the New York Times Co.). In the early 1970s, the publisher of the paper inaugurated a two-part strategy for electronic publishing. The paper would investigate creating its own electronic distribution service, and contract with a commercial timesharing service. The Times signed with Mead Data's fledgling electronic service marketed under the trade names LEXIS and NEXIS. Mead offered the full-text of the Times to its customers and the Times would prepare an abstract and index of the articles which would be

part of the service. On Mead's system, the Times was a success from the day it became available in electronic form. The reasons for its success include:

- Mead had hit upon a perfect niche: lawyers had to do legal research manually and wanted to save time. Even though Mead's service had fees attached to it, the cost for online information retrieval could be passed on to the clients who would pay the bill.
- Mead Data Central's software let lawyers, librarians and other researchers locate all articles on a specific topic without fail. The added assurance of completeness made the product an instant winner for nervous attorneys.
- The Times had great content, and it is the U.S. newspaper of record; therefore, a wide range of individuals, companies and organizations wanted to know what the Times had to say about a specific topic.

The service gave access to back issues without a hassle. Anyone who has ever tried to get a back issue of a newspaper or magazine knows how valuable that electronic archive is. Mead was smart because their first computer terminals -- painted a garish red-orange -- produced a legible, clean copy on paper whenever the customer wanted it. As you can imagine, whenever is NOW. As revenues from Mead grew and the complexities of running their own timesharing service became increasingly evident, the Times quietly discontinued its own efforts at creating a timesharing service. In the early 1980s, the Times shifted responsibility for indexing and abstracting service from their offices near Manhattan to Mead Data. Today, the full-text of the New York Times is one of the major success stories in electronic publishing. The database produces revenue, and the customer base is different from the purchaser of the newsprint paper.

### Dun & Bradstreet Case

Another electronic success story has been Dun & Bradstreet's online business information. In addition to credit reports, D&B provides extensive factual information about public and private companies headquartered in the principal industrialized countries. Most of us have seen or used the Million Dollar Directory to get the address, telephone number and names of key executives in companies which have annual revenues in excess of \$1 million. Dun's Marketing Services makes the Million Dollar Directory available in an electronic form. Originally the database was offered with the same information contained in the print version. Over the last three years, D&B has responded to customer requests for more companies and more information.

As a result, the online file contains more company listings than the printed publication. The data in the online file are broken into specific categories or fields. This rigid structure allows the customer to display information in tabular reports. A typical report can provide company name, annual sales, number of employees, headquarter location and telephone number. Unlike the Times the D&B database was not an immediate success. The early version of the D&B files on the DIALOG Information Services system

(DIALOG is the second largest textual database distributor after Mead Data Central) were quite similar to the print products produced by D&B. Dun's Marketing Services, headed by Rick Clark, immediately instituted changes in record structure, content and database features to make valuable D&B data take full advantage of the electronic media. Within a year of going online, D&B had engineered a winner. Customers could obtain information in convenient tabular reports which permitted comparative analysis of companies by product, revenue and dozens of other key indicators. The success of the online files was ensured by these contributing factors:

- Identity. Dun & Bradstreet had substantial name recognition before the data became available online.
- Customer orientation. The managers were listening to what the customers said and changed the electronic product accordingly.
- Content. The D&B databases provide the most thorough coverage of private companies currently available online.

### Two-Minute Case Analysis

There are three important lessons in these two cases:

- The companies had to take a chance, get the product out the door and then listen to the customers. Success was a result of common sense and a willingness to be flexible.
- The information value of the electronic products pulled customers to the data. Without good data, neither company would have had a prayer at recovering costs or building a winning product.
- The companies stuck with their investment in electronic publishing over what was a multi-year time line. It took both companies time to get the products up and time to make adjustments. If they had quit the game early, we would not have access to two outstanding electronic products built from print.

### Other Techniques: Diskettes and CD-ROMs

Before talking about how you can take advantage of the opportunities for electronic publishing, let me mention two other techniques which are available to you now.

First, information can be placed on floppy diskettes. Notable examples of success are the test drive and financial services programs created for potential purchasers of Ford and Buick automobiles. The most successful implementations of this approach require that the publisher package the information within a software program which allows the data to be displayed and manipulated in an appealing and useful way. This publishing medium is not limited to company directories like the floppy disk Yellow Page listings

or software simulations. There are a number of diskazines published on a monthly or bimonthly schedule for computer users. These disks arrive by mail, or they can be purchased at a newsstand. The customer reads the disk by running its programs on a personal computer. Falsoft, the publisher of Rainbow and Personal Computer Magazine, offers readers a traditional monthly magazine and a floppy disk containing the programs described in each issue. A second alternative is compact-disc read-only memory (CD-ROM) publishing. The CD-ROM is a variant of the audio CD. Data are placed on a master, and copies are manufactured. Discovery Systems (Dubin, Ohio) offers a publishing service which provides 200 CD-ROMs for less than \$15,000. While \$15,000 is not a trivial amount, the fee buys the publisher a medium which can contain 550 megabytes of data or the equivalent of a five-foot shelf of books in the New York Public Library. Estimates of the number of commercial CD-ROM products range from 300 to 400 separate titles with more appearing every week. A number of products have sold more than 1,000 units:

- H. W. Wilson's CD-ROMs containing the reference materials in the Reader's Guide to Periodical Literature and about a dozen other Wilson reference tools
- Books in Print Plus, published by R. R. Bowker, a unit of Reed International
- Compact Disclosure, published by Disclosure Inc., a unit of VNU. This CD-ROM contains extracts of various Securities & Exchange Commission documents pertaining to U. S. public companies.

R. R. Bowker

Books in Print Plus in some ways is representative of the successful CD-ROM products. Books in Print in its printed version consisted of several large volumes: a listing of books by title, authors and subjects. The books proved unwieldy for those consulting them and costly for Bowker to produce. The original Books in Print CD-ROM was essentially an electronic version of the printed books. Software allowed the user to locate one or more books by title, author, subject or any combination of ideas or words. The product enjoyed preliminary success, particularly in large reference libraries. Bowker, however, solicited customer feedback and modified the original concept in the second version of the CD-ROM, Books in Print Plus. The software was enhanced and an order module was added to the product. In a nutshell, the user could locate a book, press a key and the CD-ROM software would dial a telephone number and transmit the book order to Bowker. The CD-ROM kept track of what was ordered. The addition of this electronic feature which took advantage of the CD-ROM's ability to store larger amounts of data and to function like a floppy disk, allowed Bowker to stimulate sales of the Books in Print Plus CD-ROM to bookstores and the back offices of libraries. The success of this product is a result of:

- Having information of value to specific market segments
- Examining the needs of the customer
- Making full use of the capabilities of the medium.

## Ensuring Success

"How can publishers emulate the success of these companies?" You can if you study these success stories and avoid some of the common pitfalls which plague publishers embracing a new technology and medium. The one fundamental, of course, is to develop a strategic electronic information plan. This is not the forum for describing the process of setting strategy, analyzing the competition, assessing technology, spelling out tactics and preparing realistic P&Ls. It may be helpful, though, to touch on some of the important questions you and your company must ask yourselves as you move forward with electronic information products:

- Do I have information which can be transferred to an electronic form?
- Do I have access to the expertise that I need to identify the medium, determine the data structure, make the transfer and produce the electronic product?
- If the answer is yes, what do I have to do to prepare the data for the electronic publishing medium I want to use?
- Have I the marketing and distribution networks in place to sell, deliver and support the electronic product?
- Am I prepared to listen to the customer's suggestions and respond to them in a timely manner?
- Am I going to seek a new market or upgrade existing revenue streams?
- Am I committed to the electronic product?

## Strategic Options

One of the exciting aspects of electronic publishing today is that publishers have a wide range of options from which to select when they want to create electronic information products. Only five years ago, there was one option -- do it yourself. These include:

### The Distribution Model

This is the approach taken by the Times. Mead Data is the exclusive distribution agent for the online version of the Times. The Times receives a royalty from Mead, which assumes responsibility for preparing, distributing, marketing and providing client support to users of the database. The Times obtains revenue without any significant investment in the electronic product.

## The Joint Venture Model

The publisher signs an agreement with a company which specializes in creating electronic information products. One current example is Silver Platter, located in suburban Boston. This firm gets permission to prepare CD-ROM versions of information sources. One example is the Business Software Database, which was published in print form by R.R. Bowker in 1986. Silver Platter manufacturers a CD-ROM version of the printed product, sells it, supports it and shares the revenue with the information provider. There are a number of companies in the U.S. and Europe offering services similar to Silver Platter's.

## The Lone Ranger Model

The publisher assumes full responsibility for preparing the electronic information product. UMI, R.R. Bowker and H.W. Wilson are three companies which produce themselves the information in a variety of media. The advantage of this approach is control over the entire publishing process, but it is recommended only for organizations which have technical expertise within the organization and a strong commitment to electronic publishing.

## The Private File Model

A publisher pays another firm to provide electronic publishing services. The publisher retains all rights to the electronic property and pays a fee for computer storage or technical services to a contractor. Prentice-Hall's online tax service, **PhiNet**, operates in this way. The publisher contracts with Reed International's International Computerprint Corporation for timesharing services.

## The Hybrid Model

A publisher assembles the various components appropriate for his electronic publishing strategy. Typical mix-and-match pieces may include one relationship for online distribution of the information and a separate deal for CD-ROM electronic products. The company may produce a floppy disk version of the print product itself or contract that to still another vendor. None of these has a significant advantage or disadvantage. Success has been engineered by companies using all of these techniques. One useful step at any stage in the electronic publishing process is to investigate options on a regular cycle. The technology and opportunities change frequently enough to warrant horizon scanning for alternative approaches every three to six months.

The informed electronic publisher will build a model appropriate for his specific situation and requirements.

## Five Electronic Publishing Myths

As electronic publishers move forward in the product design and development process, simplification of complex issues must occur. It is not practical nor desirable to have the CEO of an electronic information company have the expertise to hard code a fix to the database software used to manage the production process. On the other hand, senior managers must not let the simplification process blind them to generalizations which mask hard realities or facts which distort what is actually taking place in the production process and the marketplace. I've been to a handful of information industry meetings, and I've concluded that only in Athens on days set aside to honor the Greek gods and goddesses have more myths and fables been exchanged. Let's look briefly at some of the electronic publishing fables and consider the realities they attempt to present:

### The Money Myth

Electronic publishing, regardless of medium, will reduce my production costs. The reality is that over time electronic publishing will greatly reduce some costs, but it will increase costs in other areas. Costs at start up generally are quite high in data preparation, hardware, software and such value-added enhancements as indexing. Over the longer terms, support and marketing costs are high as well. Users of electronic products typically have more questions than users of print products. It costs more to support electronic products because of technological change and the need to respond to user requests for system features. Costs which decrease are those associated with production, printing and shipping.

### The Market Myth

Electronic information products will give me access to new markets. Yes and no. If the print product serves the library market and the electronic product serves the same group of people more efficiently and in a more cost-effective manner, the print product revenue will be cannibalized. However, if the electronic product is configured to meet the needs of a specific group of users who are not now using the print product, the electronic product can pull new customers. The key is to design the electronic product to meet the needs of a specific market niche and utilize the functionality of the electronic medium in a fresh, interesting way.

### The Speed Myth

Electronic publishing is faster than print publishing. After the electronic publishing system is up and running, it will generally be many times faster at mechanical and repetitive functions than the non-electronic system. At the outset, however, each separate step will take more time than traditional methods. Electronic publishing brings a different meaning to the word timely. When information is available in a monthly publication, an electronic publication may have to be available on a weekly or daily basis. For the electronic news organizations, timely means real-time updates. Even a 15-minute delay becomes unacceptable because the computer changes the user's perception of time. No matter how fast electronic publishing becomes it will never be fast enough.



## The Incremental - Revenue Myth

Electronic publishing brings incremental revenue to the publishing house. Electronic information products must be unique products in their own right. If properly executed, they will generate significant revenue streams from users who adopt the technology and the value of the information in the new medium. However, most electronic products are not designed to take advantage of the particular electronic medium. They are electronic equivalents of print products. The most successful electronic products offer something new and exciting to the users. These products are not better mousetraps, they are completely new ways to think about mice.

## The Technology Myth

Technical expertise is not available. Wrong. Technical expertise in data structures, database design, online distribution, software interface and CD-ROMs is easily available. What once was a black art is now commonplace. Remember that the majority of electronic information is produced not by print publishers but by financial service firms, computer and software companies, consultancies, government agencies and academic organizations. Look in the Yellow Pages.

## The Pitfalls

Publishers who are aware of these five myths, also need to know the pitfalls which await the uninformed electronic publisher.

For more than a decade, I have been compiling a list of my own errors in electronic publishing. Unfortunately for me and those who pay me, I know this list is far from complete. Making new errors in one's profession is a blunt reminder that when transferring a craft from a proven technology to an emerging technology, missteps are inevitable. The more notable ones I have plunged blindly into include a half-dozen traps the size of Rhode Island.

### The Structured-Data Pitfall

Electronic products require that the data be tightly organized and consistent. My favorite example was brought to my attention by a service bureau in Rockville, Maryland, in 1973. The job was to put a consulting firm's proposals into a database so the president could determine the status of bids. The problem was the way in which I had submitted the first batch of proposals to this company to process. The power company Consolidated Edison was referred to in four different proposals in these four ways:

- Consolidated Edison Co.
- Consolidated Edison Inc.
- **ConEd**
- Consolidated Edison Company
- Consolidated Edison.

The client knew we were talking to him even though we used variant forms of his organization's name, but to the service bureau and the computer database system each variation was a completely different company. The lesson I learned from this pitfall is that an electronic information product requires a much greater -- some may say, obsessive -- degree of control over the structure and format of the information than a traditional print product. Without structured data -- that is, consistent company names, the same type of information in the same place in each record in the database, and editorial steps which ensure data integrity -- making, storing and finding information in electronic form is next to impossible. For all their power, the \$15,000 80386 computers have the native intelligence of a six-month-old Cocker Spaniel. My after-the-fact fix was standardizing company names by using the Dun & Bradstreet Million Dollar Directory as my authority.

### The Media-Are-Alike Pitfall

About ten years ago, I wasn't sure what Marshall McLuhan meant when he said, "The medium is the message."

After I embarked on making a technical reference manual Commercial Nuclear Power Plants into an electronic product I learned first hand that print is a linear medium. The editorial process, the production process and the customer's use of the book or reference material focuses and limits the body of information. Print products build fences, breaking information into easily managed units like paragraphs, chapters and sections. The user turns the pages, scans the text and images, and can wander through the publication back to front, front to back, index to page, picture to picture and other ways the reader chooses.

Electronic products are multi-dimensional media. The high degree of structure in successful electronic products, combined with a computer's ability to find any piece of information as it relates to any other piece of information rapidly, changes the user's relationship with the data.

I've identified five inherent characteristics of electronic media.

- The electronic product exists only after the user turns on the system and interacts with it. Depending on the nature of the interface and the approach the user takes, the electronic information product is defined by the user's interaction with the information as part of a system.
- The print product encourages browsing; the electronic product requires queries and exploring. The most avid consumers of electronic information products are game oriented. The computer is a toy.
- Electronic products have the capability of combining words, sound, still and moving images on one medium. Today, multimedia electronic information products are still oddities, but the Voyager Corporation's Vincent Van Gogh videodisk suggests how the user can define his approach. This \$300 product allows the user to select a

guided tour of Van Gogh's art, narrated by Leonard Nimoy, or use a mouse to bounce from picture to picture, topic to topic with the click of a button. Such flexible, fancy indexing is called Hypertext, but is little more than an application of traditional indexing to highly structured data.

- Electronic products create their own world. One of the interesting observations about people who use computers is that they lose their sense of time.\* The electronic product pulls the user into the electronic world. For some people, interacting with an electronic information product is easier, more absorbing and more **gamelike** than using a print information product. Electronic publishing may have the ultimate intellectual sizzle.

Electronic products are technology dependent. A new technology results in a new electronic product. Innovations in printing do not alter the way in which print as a communications medium operates. Thus, when a new technology appears, a publisher can take information which exists in an older technology, transfer it to the new medium and create a new information product. The new medium transforms data into an informational experience. This is something that print, video and music alone cannot do. Publishers with a highly successful print product, database and CD-ROM are vulnerable to an entrepreneur equipped with a new information technology.

### The Budgeting Pitfall

Electronic products are more costly to produce and more costly to use than print products. Publishers must accept the fact that structuring data, ensuring accuracy and integrity of the data, and producing the electronic information product require substantial resources. Many electronic publishers discover after they have created their first electronic product that their work has just begun.

User feedback begins immediately and the second generation of the product begins before the first has paid for itself. One can't overlook users' perceptions that electronic products charge for information that may be free. Public libraries offer their patrons access to magazines. Only a handful of public libraries carry the magazines-on-a-disk mentioned a moment ago. If the individual wants the information on the floppy, he's got to buy it. Furthermore, to use the information, the reader must have equipment, leisure and skill necessary to extract the information from the product.

These are formidable barriers which explain why only a handful of electronic information products are profitable to their creators.

Profitable, in this context, means that the product repays the development, production and upgrade costs for the electronic product. **UMI/Data Courier's ABI/INFORM** is one of these products, and we still ask ourselves how we managed to pull off this feat given the number of mistakes we have made in our two-decade battle.

Electronic products, as a rule, generate revenue in modest amounts at first and then maintain that level of return for several years. For the persistent and patient, electronic products can pay off. The pay off, however, takes anywhere from twice to five times as long as for a more traditional print product.

## The Standards Pitfall

The electronic product winners define the standards; otherwise it's a free-for-all. Creating new publishing opportunities are six technology changes occurring at this moment, each affecting the electronic products which we can produce tomorrow.

- The i486 processor from Intel. This is a computer chip which will put power and processing speed in the hands of individuals which can be visualized if one thinks of today's IBM PS/2's as 1960 Ramblers and the i486 as Ferraris.
- UNIX. Developed by Bell Labs about a decade ago, this operating system is gaining momentum as the software device on which information can be created and exchanged with greater speed and ease than today's systems allow.
- Software. Companies like the huge Digital Equipment Co. and start-ups like Tome Associates in London, England, are making enormous strides in techniques which allow people to extract and manipulate the information contained in electronic products. Tome software, for example, allows the user to type a question like "Tell me how many offices Aetna Life has in the U.S.?" and get back an answer. Although software lags behind hardware at this time, significant breakthroughs are being made and starting to make their way to market. Early next year the Thomson Financial Network will debut a major new timesharing service based on innovative software developed in the company's Boston office.

Optical Technology. CD-ROMs are gaining market acceptance, but in technological terms they are pretty tame stuff. The real excitement is combining the ability to store lots of data and update it, extract it and change it. Optical storage products which work like magnetic media are called flopticals, and they will have tremendous impact on publishing opportunities. The promise of the floptical, however, is not for words. The innovations will come in the area of images and multi-media. Flopticals promise to be as revolutionary as the hard (fixed) disk was for the personal computer.

- Laser printing. Lasers are successful at the present time because they are fast and quiet. However, their impact is making itself visible in the emergence of desktop publishing which capitalizes on the laser's ability to reproduce high-resolution type (300 dots per inch) and images. As lasers move along the technology curve, new

publishing opportunities will emerge. The electronic product can be delivered to a customer's computer and then printed on the customer's laser printer. This may not be practical for newspapers and four-color magazines, but it may have a role to play in specialized publishing opportunities like investment newsletters and specialized news services.

Facsimile Transmission. Pinpoint Publishing, located in Chantilly, Virginia, is now combining database queries, desktop publishing and facsimile transmission to provide specialized news to business. Pinpoint sells to those interested in the computer business, for example a daily news service delivered by facsimile. The customer calls Pinpoint, provides that day's FAX number wherever in the world that may be. Pinpoint then creates a personalized newspaper with headlines, features and tidbits of specific interest to that customer. That material is transmitted by FAX in the form of a typeset, professionally designed publication. The difference is that only one copy is produced.

Each of these technologies allows the publisher opportunities to create new electronic information products. Capitalizing on these opportunities requires that the successful electronic publisher feels comfortable with the emerging technologies and has the expertise necessary to innovate successfully.

### The Spreadsheet Pitfall

As an owner of a small newsletter and book publishing company, I recall my high expectations for revenue when I put Plumb/Bulletin Board Systems online on the **Newsnet** timesharing service. I knew the value of the information to my 1,000 subscribers and believed that an electronic distribution medium would allow me to reach more people and capture additional revenue. Using Lotus 1-2-3 I was able to engineer exciting scenarios based on the premise that there were 25,000 **Newsnet** passwords in 1986 and if just 10 percent of the customers (2,500) used my newsletter once a month for five minutes I would earn lots of money. The reality was that the print product generated tens of thousands of dollars and the electronic version earned about \$200 per month. My expectations were not in line with the reality of electronic product earning potential. Bear in mind that there are more than 400 commercial CD-ROM products and only about a half dozen have sold more than 1,000 units. There are about 4,000 commercial databases and fewer than 100 earn revenue in excess of \$1 million for their producers. These odds, however, are not that different from those magazine publishers face when they launch a new title. Take a close look at the numbers. Make sure they are in line with the figures generated by companies offering related information products. More electronic products fail because the numbers were unrealistically high and actual results were far off the mark than because the marketplace rejected the information product outright.

## The Knee-Jerk Pitfall

One of the more common remarks at electronic publishing trade shows is, "We did it because we had to." The implication is that a competitor -- real or perceived -- had introduced an electronic product and another company reacted with its own electronic product. Knee-jerk reactions rarely yield successful products. Typical signals of knee-jerk product innovation include these rationalizations:

- "We're being left behind."
- "Our competitors are gaining market share at our expense."
- "We have to understand the technology so let's make a database."
- "We need to get our feet wet in this area."
- "An electronic product will give us incremental (or easy) revenue."
- "We've got the technical expertise to do this so let's give it a whirl."
- "We have the typesetting tape; let's make a database."
- "An electronic product will increase the value of our company in the eyes of the shareholders."

Anyone of these sets the stage for failure and disappointment. The right reason to undertake electronic publishing is driven by what the customer tells you he wants. When the customer says, "Give me a product which meets this need," then the electronic product has a better than average chance to survive and flourish.

In conclusion, electronic publishing and the computers which make it possible are liberating machines.<sup>3</sup> Ladies and gentlemen, start your engines.

## Notes

<sup>1</sup> Carolyn Torcellini, "The Catalog Age Report," Catalog Age, December 1988, Vol. 5, No. 12, 80-133.

<sup>2</sup> Jeremy Rifkin's Time Wars: The Primary Conflict in Human History (New York: Simon & Schuster, 1987), pp. 114-122 provides the best discussion of this phenomenon that I have seen.

<sup>3</sup> The idea for this remark comes from Paul Rabinow, editor, The Foucault Reader (New York: Pantheon Books, 1989), p. 247.