

THE PRUDENT USE OF ELECTRONIC INFORMATION

by Brian A. Furlong

ERISA demands prudent investment decision making. In an ERISA environment, it is essential that plan sponsors, their consultants and advisors operate with as much information as possible pertinent to the performance of the plan assets. A key to the prudent garnering and management of information for pension plans is the appropriate use of technology.

Recently the financial and business press has been awash with talk of the Internet, the Web, Cyberspace, Bandwidth, etc. While some real estate professionals have been at the vanguard of recent developments in telecommunications and computing, many have only vaguely followed new developments. What's going on with electronic information, and what does it mean for real estate counselors?

What Changes Are Afoot?

From the 1940s through the early 1980s, most Americans had little direct experience with computers. The typical computer was a mainframe, run by professional information processing professionals for big corporations, institutions and the government. The hardware was expensive, and the software was generally a programming language, such as FORTRAN or COBOL, which only specially-trained people could run.

In the early and mid-1980s personal computers came into widespread usage. They were affordable to small businesses and home users. To meet the new market of users who were not computer professionals, programmers developed high-level software for the general public. This included word processing and spreadsheet applications for general business use and easy-to-use special purpose programs such as lease-by-lease analysis programs. People who had never turned on a computer became regular users. The way in which offices carried out business changed forever, as evidenced by the fading away of old technologies such as the IBM Selectric, Correct-O-Type and ruled accounting paper.

Throughout the 1980s, the main changes in technology involved increases in processing speed and memory, or software improvements designed to enhance the functionality or ease of use. Most people operated on single computers, and the only way they shared data with other users was by distributing printouts or floppy disks. In the 1990s, improvements in memory capacity, software functionality and ease of use have continued at a rapid and apparently inexorable pace. However, the real innovation of the 1990s is shaping up to be another phenomenon, networking.

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For most business users, networking started with the installation of Local Area Networks (LANs)¹ for use within their offices. Many companies with multiple offices followed up with the installation of proprietary Wide-Area Networks (WANs).² On the home front, most people first became networked with modems to join a commercial on-line network service such as America On-Line, CompuServe or Prodigy. Over the last year or two, the Internet caught the attention of many home users. Each of the commercial on-line services began to provide their members with an easy interface to the Internet, as did numerous firms concentrating directly on Internet access. In 1995, commercial real estate professionals are catching Internet fever in large numbers.

What Is The Internet?

The Internet is a network of constituent computer networks all linked with a common protocol called TCP/IP.³ It is the world's largest network linking tens of thousands of other networks. With well over 30 million users, it is growing by leaps and bounds, and some analysts expect that it will link over 100 million people before the decade is over.

It is relatively inexpensive for a firm or organization to offer its own information or services over the Internet, and thousands have. As a result, the breadth of services offered over the Internet is vast. Some of the principal services and tools available to most Internet users include:

- **Electronic Mail**, for sending and retrieving electronic messages. Each user of the Internet has an E-mail address, and E-mail can be sent to any other user around the world. Typically, the user only incurs a local phone charge for using E-mail, even if the recipient of the mail is far away.
- **Electronic News** (or **USENET**), is used for computer-assisted live conferences. USENET is a system of electronic bulletin boards with ongoing user dialog. As with E-mail and any other Internet service, the user only pays for local phone charges to the user's service provider, even if the user ends up communicating with people thousands of miles away.
- **File Transfer Protocol (FTP)**, for sending or receiving files across the Internet.
- **Navigational Tools**, for organizing the contents of the Internet into easy-to-navigate hierarchies, so users can search the Internet for specific content. Two of the most widely used organizational systems for the Internet are **Gopher** and the **World-Wide Web**. Gopher organizes the content of the Internet into a hierarchy, and it includes a search engine. World-Wide Web (called the Web or the WWW) is a system which lets users access

and download files and jump from one document or Internet site to another through **Hyper-text** links. Hypertext is a mechanism which allows users to access new sites on the Internet by simply clicking the mouse on a highlighted description of the place the user is going.

What Can The Internet Be Used For?

The Internet started out as a network for non-commercial purposes, chiefly the military, other government users and universities. Recently, it has become a powerful tool for commercial real estate professional users to:

- Send messages to co-workers and clients. These messages can be prepared once and sent to either an individual or to a specified list of individuals. If the recipient is not available to read the message when sent, it is stored until the recipient is prepared to receive it. This eliminates telephone tag. If requested, the sender will receive a notice when the message is read by the recipient.
- Send files, such as spreadsheets, word processing files, databases and property or asset management reports, over the phone lines. Internet and private networks will, in many cases, make postal service and express mail delivery obsolete. Delivery by computer network is faster and cheaper, and the item delivered is more useful in electronic than in printed form.
- Retrieve files from another computer. Any type of file you can receive from a colleague or client through an exchange of floppy disks can be retrieved over the Internet. For example, it is possible to send or retrieve rent rolls, cash flow analyses, property or asset management files, word processing documents, etc.
- Set up a home page on the Web to post information useful to clients, colleagues and potential clients who are connected to the Internet. A home page can be a content-rich advertisement which explains and perhaps demonstrates the products and services your firm offers. If set up properly, the home page delivers its information in multi-media with pictures, sound and video to accompany text.

A home page on the Web can be used for electronic publishing purposes, e.g., to publish brokerage listings. With so many commercial property brokers beginning to use home pages to post listings, it is likely the Internet soon will support a multi-media electronic multiple listings function where users can screen investment, leasing or financing opportunities throughout the world. The contact database or Rolodex of an individual broker or even a large brokerage firm eventually will be no match for the breadth and depth of the contacts available through the Internet.

■ Perform research. Internet has vast, easy to search and access information resources for use in business of all types, including commercial real estate. Many periodicals are available over the Internet in searchable form. The nation's largest libraries have their catalogues on-line, including the Library of Congress and many university libraries. The books and information found in these catalogues are often available by request from local libraries which, in turn, borrow these items using inter-library loans.

All securities documents filed with the SEC, including the annual 10-K and 8-K reports of all publicly-traded REITs, are available for immediate free downloading from the Internet's EDGAR service. These reports include a wealth of information on REITs as investment entities, and they often provide transaction and other data regarding individual properties.

The government maintains many Internet sites with public access. For example, data from the Commerce and Labor Departments are available. The FDIC provides detailed narrative and statistical reports each quarter on the nation's commercial banking and thrift industries. Even the CIA has an accessible home page on the Web which, among other things, provides a detailed summary of the economy, demography, geography, weather, political system, military strength, drug trafficking patterns, etc., for each nation, island, island group and commonly-referenced group of nations.

There is more information available on the Internet than in any physical library. It is accessible wherever there is a computer with a modem and a phone line. Access is cheap, starting at about \$10 to \$20 per month for access through popular commercial networks such as America On-Line, and it requires little training or strong computer skills to use. It has become a mass market phenomenon and no longer is the exclusive province of computer hackers, scientists and professors.

Internet's Limitations

The Internet has two principal problems for business users. First it is difficult to charge for goods, services and information over the Internet. Therefore, many information providers prefer to contract with privately run commercial networks and services, such as America On-Line, Bloomberg or Telerep, which charge for their services and share the proceeds with the information provider.⁴

The second problem is network security. Once a local area network (LAN) is linked to the Internet, hackers or criminals from elsewhere on the Internet may try to damage or steal data from the LAN. Partial, although not absolute, protection can be

provided if appropriate electronic fire walls are set up to control unauthorized access to sensitive parts of the LAN's data.⁵ For security reasons, some companies prefer to maintain proprietary wide area networks to carry out certain communications tasks.

GIS And CD ROM

Besides networking, other recent changes to computing by real estate practitioners involve applications made practical by increased memory capacity, faster processing speeds and improved software applications. Two of the most noteworthy applications to achieve recent prominence are Geographic Information Systems (GIS) and CD ROM products.

GIS applications allow a user to convert tabular data into color coded or custom shaded maps which clearly represent the spatial relationships in the data. GIS has been around for a long time, but it has been too costly and difficult to use for many real estate professionals. Further, much of the data necessary to feed the geo maps had been difficult to acquire and organize. Recently, data sources have come way down in price, the variety of data available on CD or disk has increased greatly and mapping and database programs have become much easier to use. For example, vendors now sell updated employment, demographic and income information for the entire country. Many data elements are available on a census block group, census tract, zip code, county, MSA, state and national level. Other vendors sell real estate information, such as the location and updated sales of virtually every supermarket in the country. At our company, we have developed a menu of standard maps which can be used repeatedly as templates to attractively represent employment, income, demographic and other spatial relationships. Once set up, these maps take little time and money to produce for specific properties or areas.

CD ROMs are becoming a major source for real estate counselors to use. A single CD ROM disk can carry an immense amount of data, and the storage capacity of CD ROMs will surely increase over time. Entrepreneurs and governments now are putting all sorts of information in data format on CDs, as well as scanned images. This includes:

- comparable property sale information with the basic information downloaded from electronic records kept by the government or transfer tax authorities for deed recording;
- property-specific assessment records and tax maps;
- economic and demographic data;
- descriptions of all the space available for let in a given market;
- descriptions of individual buildings of a defined class in a defined geography;

- operating statistics which had only been published previously in printed guides;
- property market conditions;
- recorded deeds, mortgages, legal descriptions and other documents scanned from public records and sometimes converted into searchable data files.

Information on a disk is a big improvement over the old hard copy representations. It can be searched using electronic search engines, and the data can be sorted, averaged, arranged in charts, graphed, etc.

Although a number of CD products are used in real estate analysis throughout the nation, many more cover only certain states or parts of states. It is likely that in the next few years there will be some consolidation and cooperative marketing of the CD information products. This would make them easier to find and contract for, thereby increasing the user base and making the production of this information more economically viable. It is also likely that some information now available exclusively on a CD will find its way onto the Internet or private on-line services such as Teleres.⁶

How Will This Technology Change Commercial Real Estate Practices?

Real estate has always been characterized by private information, but technological advances are making it ever more public. Technology is also leading to standardization of how data is organized and presented. For example, real estate companies previously might have used varied methods to present the same type of information in charts. Now computerized databases can present data in a common set of charts, graphs and maps which are primarily generated by the computer with limited interaction required by the analyst. This not only saves a great amount of time, but it leads to consistency of presentation. Standardized charts are easier for a third party to review, particularly when a large portfolio is involved. The use of common data elements, processed by database and GIS programs, allows for easy comparisons of one asset to another. It also allows for more process control by management.

Technological advances are causing an evolution in the type of knowledge and research skills which are valuable to a real estate counselor. Previously one needed to know how to use the library's physical card catalogue and guide to periodic literature. Now, it's better to know how to search for information on the Internet and other on-line sources. Increasingly, local property market knowledge is becoming less valuable. Today database products enable users located throughout the country to intensively map the property stock, availability, rents, income patterns, new construction patterns, population movements, household size and other variables of locales that used to take years

for a local expert to understand. There used to be so little data or it was organized so poorly that in many areas an expert was needed who intuitively understood the local realities. We are getting to the point where hard data will often replace gut feel, if effectively manipulated.

The new technology will lead to centralization of gathering information. Just as garage-based car manufactures were replaced by the efficiencies of the Ford assembly line early in this century, data firms will centralize many information gathering tasks which practitioners previously did independently. For example, it doesn't make economic sense for each appraiser in America to gather his or her own public records information on comparable sales when this can be done for far less aggregate cost by firms such as REDI Data or COMPS. In a competitive world, most cost savings are passed on to the users of the information. Those who persist in inefficient methods of data investigation and processing will see their profitability suffer.

Advances in computing and telecommunications, such as the Internet, will affect many aspects of the office business, retail business, lodging business and others directly connected to the commercial property markets. The ability to communicate at a distance decreases the need for office tenants to agglomerate. It makes office hoteling and telecommuting more feasible. On the retail front, the possibility to present one's wares electronically changes the type of space required and the best location for that space. For example, electronic banking has greatly reduced the demand for large, well located bank branches. The ability to order music CDs over the Internet and to preview the sound, will hurt CD sales in malls. Computer networks will encourage more comparison shopping as computerized agents seek out the best deal among competing vendors. For the lodging industry, electronic booking is coming into play. The prospective guest can call up a detailed description of a hotel, sometimes including electronically transmitted photos or videos together with pricing options. This will change common booking procedures which affect the value of franchise agreements and booking association memberships held by hotels.

Conclusions

Real estate counselors need to explore what is important about new technology as well as its business ramifications. Since real estate is an information-based business, it is inevitable that most commercial real estate professionals will be on the Internet and will use other products such as CD ROM and geo-maps. For many it makes sense to get on-line and up to speed with the new technology. These professionals will reap the benefits of

the new technology and not lose out to technology-savvy competitors.

NOTES

1. A LAN is a system which links computers and peripheral devices within a building or some other small, local area. LANs allow co-workers to communicate with each other's computers and to share resources through a client/server system. In a client/server system, one or more server computers centrally maintain data for, and execute tasks for, a group of interconnected client computers.
2. A WAN is a communications network which links two or more Local Area Networks which are located at a distance from each other. Communications in a WAN may be by way of public or private lines.
3. A *protocol* is a set of rules or agreements on how to communicate. *TCP/IP* stands for Transmission Control Protocol/Internet Protocol. Hence the name *Internet* for the network operating under TCP/IP.
4. Many people are working hard to develop better ways to charge for information and products distributed over the Internet. Once it is effective to charge for Internet information, it will become economically viable for many information providers to offer their wares directly over the Internet. Strong products will reach a vast market, which will result in low per-use charges.
5. If you access Internet by a modem connection with an Internet gatekeeper such as America On-Line, there is little risk of a breach of security involving your computer. The risk is more acute if you open your network to outside visitations by acting as a service provider on the Internet rather than just a service consumer.
6. Teleres is an on-line information service dedicated to the commercial real estate industry which is being developed by AEGON, a Dutch insurance conglomerate, in partnership with the Dow Jones Corporation.

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