Rosalind Resnick & Dave Taylor

the INTERNET BUSINESS

Guide

Riding the Information Superhighway to Profit

Find out how to tap into the Internet global network to market your products and services, make contacts with colleagues, and improve customer service

Discover how you can boost sales and cut costs by using the Internet

Get tips for the best deals on nternet access and services

earn how to track down usiness leads and transform ur company into a rtual corporation"

52-week high/low		
12⅝ /	7¼	6⅛
8⅝ /	40¼ /	15½
13¾ /	6⅝	

THE INTERNET BUSINESS GUIDE: RIDING THE INFORMATION SUPERHIGHWAY TO PROFIT

Rosalind Resnick and Dave Taylor

DEDICATIONS

For my grandmother, Jean Resnick, who loved math and would have loved computers
Rosalind Resnick

To the jewels in my life—Linda, Jasmine, and Karma
Dave Taylor

INTERNET BUSINESS GUIDE

ACKNOWLEDGEMENTS

ABOUT THE AUTHORS

Rosalind Resnick

Rosalind Resnick (`rosalind@harrison.win.net`) is a former *Miami Herald* business reporter and now a freelance writer and author specializing in business and technology. Her articles have appeared in *The New York Times, Forbes, Nation's Business, Internet World, Compute, Home Office Computing, PC Today,* and other major newspapers and magazines. She is the author of *Exploring the World of Online Services* (Sybex, 1993), a beginner's guide for small businesses; editor and publisher of *Interactive Publishing Alert*, a monthly newsletter about electronic newspaper and magazine publishing, and a consultant to publications seeking to go online. She recently launched a syndicated newspaper column called "CyberBiz" to advise companies seeking to do business in cyberspace.

Dave Taylor

Dave Taylor (`taylor@netcom.com`) has been involved with the Internet since early in 1980 when he logged on for the first time and learned about Usenet and e-mail. Since then he's been a research scientist with Hewlett-Packard Labs, reviews editor for *SunWorld* magazine, and now president of Intuitive Systems. He has published over 500 articles, is a columnist for *Internet World* and *Open Computing*, and has two prior books: *Global Software* and *Teach Yourself UNIX In A Week*. In his spare time he's finishing up a graduate degree in Educational Computing at Purdue University, trying to train his dogs to sit, cooking gourmet vegetarian foods, and watching innumerable old movies.

INTRODUCTION

These days, everyone from the vice president on down seems to be jumping onto the information superhighway bandwagon. In fact, if you haven't been bombarded by the breathless hyperbole surrounding the information highway, you must have lived in a cave.

Despite all this hype surrounding what is more formally known as the *National Information Infrastructure*—an all-encompassing network allowing businesses to connect with customers, suppliers, and researchers worldwide—the system itself is still a long way from reality. Even big corporations are starting to realize the scope of the challenge, and recent months have seen a variety of deals and mergers fail as the glossy veneer begins to dull. Although some corporate dealmakers continue to lay down their billion-dollar bets on the future, the goal of universal videoconferencing, document sharing, and multimedia electronic mail (e-mail) remains out of reach.

What's perhaps most ironic is that there *is* a network up and running already that offers much of the information highway's promise. That network is the Internet. Although the routes aren't well marked, the signs are often incomprehensible, some lanes are closed to commercial traffic, and on-ramps are in short supply, for a tiny investment, the Internet offers enormous commercial potential for your business today.

What Is the Internet?

Put simply, the Internet is a "network of networks," a global web of 25,000 computer networks of all shapes and sizes, ranging from huge research institution mainframes to modest personal computers tucked into the corners of home offices.

Information on the Internet flows across all sorts of wires—from copper-wire telephone lines and satellite dishes to fiber-optic cable and cable TV. Once a government-funded research network that linked teams of bureaucrats and academics, the Internet now connects more than 20,000,000 people worldwide, a community that encompasses high school students, college professors, writers, programmers, and even florists and real estate brokers. And the Internet's growing at over 150,000 new users each month.
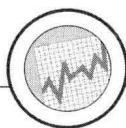
Although the Internet's academic flavor remains, many new users represent businesses and other commercial ventures. These days, corporate giants such as IBM, General Electric, J.P. Morgan, Xerox, Merrill Lynch, Motorola, and Schlumberger are tapping into the Internet for everything from electronic mail to international research and development. Most excitingly to us, so are thousands of electronic entrepreneurs selling everything from cheap and easy Internet access to software, books, music, computer chips, toys and flowers.

Marketing experts are also starting to recognize that the Internet promises a veritable bonanza—20,000,000 people who have conveniently sorted themselves into interest groups that focus on topics ranging from medieval literature to drag racing, C programming to dating. On the Internet, no one has to buy a mailing list and pay for printing and postage. Post a product announcement or press release on the appropriate Internet discussion list, and without any further effort or cost, your message is zapped automatically to every subscriber.

But don't run out and log onto the Internet yet! Although the Internet represents a huge, easily accessible market that doubles as the world's largest post office and library, doing business on the Internet can be perilous for the uninformed.

Internet-connected companies point to increased productivity, better collaboration with strategic partners, and access to a seemingly infinite array of information, but businesses also are quick to agree that the Internet is virgin territory when it comes to marketing and advertising. As a result, savvy entrepreneurs are moving cautiously to avoid alienating Internet users—their potential customer base—by being sensitive to the network's not-for-profit heritage, which emphasizes free information and egalitarian access to markets.

Realize before you set out that the Internet isn't just another magazine in which to advertise. On the Internet, you can't distribute empty puffery, breathless hype, or innuendo about your competitors—and expect to get away with it. Instead, proceed cautiously and view the Internet as a sort of supertown square, where different corners have different values and expectations but all have a basic set of expectations of how newcomers will behave.

Tip: The best advice we have is to start out in any new Internet arena as a *cybertourist*, exploring and experimenting but not becoming a full-fledged participant until you've had a chance to learn about the culture and interaction style of the Internet community in which you plan to do business. Some communities, you'll find, are quite hostile to newcomers, whether corporate or otherwise; others eagerly extend a virtual welcome mat, delighted at your interest, attention, and participation.

Who Runs This Show Anyway?

The world of business has always been a pretty rough and tumble place, with competitors using innuendo, unfair trade practices, monopolies, bribes, and other unsavory techniques to ensure their individual success in the marketplace. More recently, consumers have become a little savvier. These days, companies that thrive are those that work with the community, becoming "good corporate citizens," and trying to make a positive addition to their communities.

The Internet is no different from any other community, and those companies that "go native" by brushing up on the network's culture and mores will gain a competitive advantage in the electronic marketplace .

Taking time to learn about the Internet now can pay big dividends in the future. If the current growth rate is sustained, more than 50,000,000 people will be accessible through the Internet by the turn of the century. Companies that jump in early and learn how to work with the Internet community will become productive, valued members of cyberspace; those that don't may end up as roadkill on tomorrow's Infobahn.

The quickest way to hitch a ride on the information highway is by hopping aboard the Internet. Created in 1969 as a way to link the U.S. Defense Department with high-level university researchers working on sensitive government projects, the Internet has no central computer that stores its millions of gigabytes of information. That's because the government feared that, in the event of a nuclear attack, all its valuable military data could be destroyed. As a result, the Internet became a decentralized network with data stored on each of thousands of computers.

That's good news for our country's defense but not for today's business users. Unlike traditional online services such as CompuServe, Prodigy, and America Online, the Internet has no central mainframe to dial into, no 800 number to call for a starter kit, precious little easy-to-use navigational software, and no technical support staff to call with problems or questions. Check with some of your colleagues, and you'll find that the Internet interface they see is probably very different from your own, with Mac and PC systems vying with UNIX systems for greatest popularity and dialup access offering a primitive text-based view of the information highway.

The Internet is not a corporation; it's a computer cooperative. Nobody owns the Internet and there's no one you can hold accountable if the system breaks down, which it occasionally does.

Even so, the Internet's quirky infrastructure is remarkably efficient at transmitting information from point A to point B. One way to understand the Internet is to compare it with the phone company. Due to public access laws, phone companies are required by law to offer a connection to anyone who wants one; no
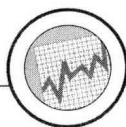
analogous requirements are yet in place for Internet connections (an important consideration for many businesses that we examine later in the book).

If you imagine how a phone system that connected only subscribers would work, you have a rough idea of how e-mail and other messages are transmitted through the network. You compose and address a message with the Internet equivalent of an area code and phone number: an e-mail address. Your local system then consults various databases to identify the unique computer address for the remote system, then directly feeds the message to that system.

The main backbone of the Internet is the National Science Foundation-funded *NSF Network* (NSFNet). The primary artery for research and academic Internet information flow, NSFNet prohibits all commercial traffic. Its acceptable-use policy excludes any advertising except for announcements of new products and services that would be of interest to the research and education community.

However, a second, parallel backbone run by the *Commercial Internet Exchange* (CIX), a private cooperative venture, has no such restrictions. Because most Internet access providers and online services offer underlying CIX connectivity in addition to or instead of NSFNet, the remaining barriers to doing business on the Internet today are more cultural than regulatory. The government, meanwhile, is getting out of the Internet business; it's planning to start reducing its $11,500,000 subsidy beginning in 1994.

As federal restrictions on Internet use drop away, the main barrier to advertising on the Internet is the Internet purists who believe that advertising is out of place there. Many users, especially those affiliated with government research institutions and universities, can be downright hostile to any sales pitches or junk mail that litter their electronic frontier. With that in mind, we advise you to adopt more passive strategies for making your corporate presence known on the information highway.

The National Information Infrastructure

Though the Internet has been around in various forms since Richard Nixon was president, Bill Clinton and, in particular, Vice President Al Gore, have been the first high-ranking government officials to promote the information highway actively. Whether the Internet will retain its status as the de facto information superhighway or simply ride along with whatever data highway eventually emerges from the ongoing mergers of telephone, cable, and communications companies is too soon to predict. Either way, the commercialization and privatization of the Internet fits neatly into the Clinton Administration's vision of a *national information infrastructure*.

The Administration's publicly stated goals are

> To encourage private investment in the national information infrastructure
>
> To promote and protect competition
>
> To provide open access by consumers and service providers to the national information infrastructure
>
> To preserve and advance universal service
>
> To ensure flexibility so that the newly adopted regulatory framework can keep pace with the rapid technological and market changes that pervade the telecommunications and information industries.

Vice President Gore told the National Press Club in Washington, late in 1993,

> The impact on America's businesses will not be limited just to those who are in the information business, either. Virtually every business will find it possible to use these new tools to become more competitive. And by taking the lead in quickly employing these new information technologies, America's businesses will gain enormous advantages in the worldwide marketplace.

Key Business Benefits of the Internet

The Internet offers businesses an impressive number of competitive advantages, including these six key benefits: electronic mail, access to research, tracking competitors, inexpensive remote collaboration, enhanced customer service, and low-cost marketing and advertising.

Let's look at them one by one.

Electronic Mail

Much of the traffic on the Internet today is electronic mail. Indeed, it's been estimated that well over 4,000 messages are sent each second of the day on the Internet.

Being able to send messages in seconds to a user anywhere in the world is probably the single most important reason so many companies find the Internet so appealing.

The Internet is also cheaper and more cost-efficient than comparable commercial online networks such as CompuServe, GEnie, or MCI Mail. Once you're connected to the information highway, there are no additional per-minute or per-message
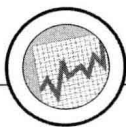
charges. In the world of commercial online services, by contrast, flat-fee plans by which users send unlimited messages are quickly giving way to pay-as-you-go schemes as the services learn to compete in this new market.

There's another important aspect to this, too: In addition to enabling your employees to communicate in an effective and inexpensive manner, the Internet links your company with the Internet's more than 20,000,000 users.

To be fair, we're not talking 20,000,000 potential customers, but even if only 1 percent are vaguely interested...well, you get the picture.

Research

Imagine that every book in your local library were actually a gateway to another library and that each of those libraries had another two to fifty times as many volumes as the first one. That's what makes the Internet such a treasure trove of information for your business. For starters, the Internet provides

- Access to the Library of Congress and just about every major university library in the United States
- Business-oriented databases such as Commerce Business Daily, the Federal Register, and the U.S. Chamber of Commerce's Economic Bulletin Board
- U.S. and Canadian Census data
- Supreme Court decisions
- World health statistics
- Security and Exchange Commission corporate financial reports
- International weather forecasts (including up-to-the-hour satellite pictures)
- United Nations information
- And even transcripts of daily White House press briefings

The Internet has more than statistical data, however. The network's lifeblood is its widely varying and often freewheeling discussion forums, split between public bulletin boards (called *Usenet*) and private electronic mailing lists. Both offer forums packed with experts discussing new developments in their fields. There are Internet discussion groups about almost anything you can think of—chemical engineering, entrepreneurship, computer programming, franchise opportunities, Eastern European trade and politics, semiconductor manufacturing, continuing employee education, and over 10,000 other forums.

Competitive Tracking

One of the most important ingredients of business success is being aware of what your competitors are doing. Frequently-asked questions include

Are my competitors working on a new product?

What areas of research are they contributing expertise to on the network?

What do customers say about their products, both good and bad?

All this information and more is on the Internet, awaiting your careful analysis.

> **Note:** By the same token, it's important to recognize that information about your company will also appear on the network once you become involved. If you start an electronic mailing list for customers, for example, your competitors may join to find out what you're doing. At the same time, joining the Internet gives your company a chance to offer valuable information to the user community and enhance your reputation with your customers, too.

Collaboration

The Internet can also help your company work with colleagues throughout the world to develop new products and services. By using the Internet to exchange and search for information, many businesses are facilitating collaboration and lowering the costs of research and development.

When IBM does development work with other companies, for example, its engineers use the Internet to communicate with counterparts rather than set up an expensive private data connection.

Marketing and Advertising

With more than 20,000,000 users worldwide— many of whom are affluent and highly educated professionals, the Internet is a fertile field for companies advertising everything from silicon chips to luxury cars.

Businesses that explicitly target the Internet's technocratic culture can gain a competitive edge and boost sales. Some companies also have found that supplying a free sample of what they're offering can whet Internet users' appetites for a
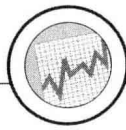
product or service they're willing to buy. It's the same idea as giving away a free taste of an ice cream flavor at a soda fountain; bait the hook right and the customers will reel themselves in.

Advertising on the Internet can be perilous, however, especially for those who don't know or don't respect the Internet culture. Witness the Arizona law firm that blitzed the Internet with direct-mail—and became Internet pariahs.

Remember that business success on the Internet comes from treading lightly and learning the culture before launching any commercial ventures. There are many opportunities for profit, but there is just as much potential for failure, too— failure that can ultimately prove quite damaging to a company.

Profile: One company that learned the importance of treading lightly in the Internet culture is Magma, a small San Diego-based computer board manufacturer. Late in the summer of 1993, the company used the Internet to send a blatantly promotional new-product announcement to over 3,000 e-mail addresses concerning its newest products.

The direct mail blitz brought in more than $30,000 in new business, but the company also was pummeled with hate mail from almost 100 Internet users, all of whom were outraged that the network was being used for such a blatantly commercial purpose. These sorts of experiences leave a permanent record in the collective memory of the online community. As Michael Seidel, vice president of sales and marketing, notes, "It was as if we had molested their daughters."

E-mail address: `seidel@magma.com`

Even marketers that do everything right must recognize that the Internet isn't a mass market. In cyberspace, software still sells better than soap pads. Though there is more diversity in the cyberspace market than there was five years ago, there's certainly less than in the mainstream markets reached by newspaper and television marketing campaigns.

One problem is that blue-collar workers are still unlikely to be connected to the Internet. What's more, people who aren't so-called early adopters are only now beginning to consider the possibility of going online.

Most top executives are also unlikely to be directly on the network; the CEOs of many computer companies have e-mail addresses, but almost always someone else reads and screens their mail for items of value and import. When John Young

was CEO of Hewlett-Packard in the early 1990s, he would "read" his e-mail by having his administrative assistant print it and leave it on his desk. John Scully, former head of Apple Computer, put two assistants on the job.

Customer Service

Increasingly, companies are turning to the Internet to set up customer support bulletin boards offering technical advice, monitoring customer satisfaction, providing new product information, and making software upgrades available electronically.

For many companies, it's a cost-effective way to do business. By supporting customers electronically, they save the expense of 800 numbers and corporate newsletters announcing upgrades. Customers, meanwhile, save on long-distance phone calls. What's more, simple upgrades can be quickly distributed to your customer base at no expense—a technique used extensively by Apple with its Macintosh software suite.

> **Profile:** An interesting example of how the Internet can improve customer service with minimal financial outlay is EDI Strategic Services in Medford, Oregon. EDI uses the Internet to provide technical support to clients throughout the West Coast—services provided by a technician who works from home. Karen Loban, the technician, uses her personal computer to dial in to the UNIX-based computer at the consulting firm's offices a few miles away and then uses the Internet to log in remotely to the remote client's computer system. This way, EDI can diagnose, support, and configure its software without interfering with the client's day-to-day computing operations and without incurring hefty long-distance telephone or air fare charges.
>
> E-mail address: `info@edihost.ediss.com`

On the Internet, small businesses can tap into a global community of more than 20,000,000 users to swap mail, make contacts, market products, search databases and other reference sources, and even engage in real-time discussions for less than $20 a month. Larger companies can buy their own direct Internet hookups starting at about $160, and high-speed, leased-line connections to the network—connections capable of supporting hundreds of employees using the Internet simultaneously—can be maintained for under $1,500 per month.
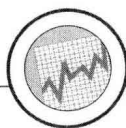
Risks and Rewards

Although there are unquestionably many advantages of doing business on the Internet, there are also many risks and problems. In addition to the business-averse Internet culture, there are also security breaches, traffic jams, and reliability problems that crop up from time to time.

Another problem is that much of the underlying Internet technology is based on the somewhat arcane UNIX operating system; low-cost, dialup connections are likely to plop you right in the middle of a UNIX session, leaving novice users hopelessly lost.

> **Note:** The good news is that there are several excellent UNIX tutorial books on the market, including one from Sams Publishing that can get you up to speed on UNIX in no time—Dave Taylor's *Teach Yourself UNIX In A Week.*

Right now, security is probably the most pressing concern that most businesses have about connecting to the Internet. Late in 1993, for instance, electronic "crackers" broke into the Internet and began stealing account passwords for a variety of different machines. By the time anybody noticed, the bandits had already learned thousands of passwords, the keys to public and private computer accounts throughout the world. No one knows exactly how many passwords were stolen, but according to *The New York Times,* officials at the government-funded Computer Emergency Response Team (CERT) estimate that tens of thousands of computers around the world have been put at risk—computers not just on the Internet but on any computer network attached to it.

Michael DeFazio, executive vice president and general manager of the UNIX Systems Group subsidiary of Novell, Inc., told *The Times,*

> A network of computers, especially one as extensive as the Internet, is not as secure as a stand-alone computer. With a stand-alone computer, you can limit access in physical ways, locking it in a room policed by gun-toting security guards if you want. You can't do that on a global network.

Then there are the traffic jams. On the Internet, as on any real-world roadway, traffic tie-ups occur when thousands of people try to tap into a particular computer at once. One example is the Illinois National Center for Supercomputer Applications computer, which offers free copies of the popular Internet browsing software, Mosaic. So many users try to download the software from the machine that it often slows to a veritable crawl trying to meet the demand. Other