Tim McEachern
Bob O'Keefe

Re-Wiring Business

Uniting Management and the Web

RE-WIRING BUSINESS

Uniting Management and the Web

Tim McEachern

Bob O'Keefe

John Wiley & Sons, Inc.

New York • Chichester • Weinheim • Brisbane • Singapore • Toronto

This text is printed on acid-free paper.

Library of Congress Cataloging-in-Publication Data:

McEachern, Tim, 1965–
Re-wiring business : uniting management and the Web / Tim McEachern and Bob O'Keefe.
p. cm.
Includes index.
ISBN 0-471-17556-0 (alk. paper)
1. Business enterprises—Computer networks. 2. World Wide Web (Information retrieval system) I. O'Keefe, Bob, 1958– .
II. Title.
HD30.37.M39 1997
658'.054678—dc21 97-17565
CIP

Printed in the United States of America

10 9 8 7 6 5 4 3 2 1

To my wife Andrea,
my children Willy, Frieda, and Emma.
Thanks.

TM

For Jackie, Maddy, and Tristan
The backbone of my physical world.

BOK

Acknowledgments

We would like to thank all who have helped us with the thinking and material that has gone into this book. In particular, Dave Winer for his always interesting DaveNet and quote in Chapter 3, Bill Gurley for his insight in Above The Crowd and thoughts for Chapter 3, Bob Metcalfe for helping start this whole Net thing and his law in Chapter 3, Rick Levine of Sun for adding style to substance in Chapter 4. Gina O'Connor contributed to the thinking that went into Chapter 5, Jim Hopper provided the material on the Redbook incident in Chapter 5, Vince Emery provided the material on the Pentium case in Chapter 6, and Eric Ward allowed us to use a press release and provided quotes for Chapter 6.

No book gets published by itself, we owe particular thanks to Jeanne Glasser, our editor at Wiley, and Neil Levine for first recognizing the potential for a book like this.

Contents

Introduction: Forward Thinking

Using the Web

The Operations Manager

A manager at a medical device manufacturer sits in a Monday morning meeting listening to a briefing. Two members of her staff attended a global company conference last week in Atlanta and called to discuss long-term market strategy. Because her group runs operations and quality control (running production as a result of marketing strategies), she was invited to send two people to listen. One of these attendees, a young recent hire, is upset; he is convinced that the conference saw a decreased role for the product line for which they manage operations, with possible withdrawal from the

market within five to seven years. Opening the conference, the senior vice president for marketing had hammered home the need to concentrate on core, profitable lines of business with potential for market growth, even at the expense of mature, profitable lines in low-growth markets. The other person, with over 15 years' experience in the company, feels that the point is exaggerated; the company wants to grow and focus more, but no one is going to kill a profitable product line. He'd heard hot air from marketing types before.

After the meeting, the manager sits at her desk and ponders the briefing. Her view is that although profits for the product line have been slim in the United States, the opportunities for expanding business in Asia and other areas are reasonable. The future may be difficult, but the product is unlikely to be killed. She fires up her Web browser, connects to the company's intranet, and does a key word search on her product name and the name given to the conference. She finds two files containing PowerPoint presentations, one from the senior vice president for marketing, another from a consultant hired to analyze future markets. She downloads both, and then flips through the slides on her PC. Both messages make the same points: Product lines with low margins should be reduced so as to focus efforts on lines with more growth potential. But there are global differences in markets, and some markets that are mature in the United States may have the highest potential elsewhere in the world. *Where* products will be marketed is key, not necessarily *which* products. With the future of her product line secure, she relaxes and wonders why she bothered to send two people to the conference.

The Executive Student

A major corporation can no longer afford the time for their managerial staff to take executive courses. The dilemma is

simple—10 years or so after their MBAs, executives need to have their skills "topped up," as a CEO put it. But these are the people who don't have time to go back to some local university for days or even weeks. Moreover, they're distributed around the world, and the last thing any company needs is 50 or so executives getting 50 different perspectives from 50 different academics.

The corporation commits to a single business school that can provide global virtual training. The executives come together for an extensive one-week program in Europe, but this is used more to build teams and generate the requirements for subsequent content, rather than to deliver actual content. For the next year, a series of modules (many requiring teamwork) are delivered via the Web.

While flying back from Europe, one individual's flight is delayed at Heathrow Airport for four hours. He dials the corporation's local service number from his personal computer to collect his E-mail. He has an E-mail stating that a new education module is ready, so he points his Web browser at the course page and downloads the material. After reading some basic material, and visiting the Web sites of some companies that are examples in this material, he downloads further pages that contain a business case. To take part in the case discussion, he connects to the course's newsgroup server; he finds that one colleague has already made some comments on the case (based on typically thin analysis) and takes pleasure in posting a sharp reply. His flight is called; he disconnects and turns off his computer.

The Woodworker's Catalog

A woodworker in Vermont sells her products through a virtual catalog. She makes decorative wooden plates out of unusual woods at the rate of about one per week. Her

previous sales outlet has been craft fairs, but these involve a large time and travel commitment. A physical catalog is not an easy option due to the uniqueness of each plate and the expense involved in printing and mailing the catalog.

The virtual catalog contains a picture of each of the plates presently in inventory, plus price details and an order form. She also lists her phone number. When a plate sells, it is removed from the catalog; when she finishes a new one, she adds it to the catalog. At any time, approximately 20 to 30 plates are available. The virtual catalog is hosted by a local Internet Service Provider (ISP). She pays $15 a month for the account, plus another $50 a month for them to do the maintenance work on the catalog. She E-mails them necessary changes with digital pictures as E-mail attachments, when needed. She takes these pictures using a $400 digital camera and then copies the file onto her PC before attaching it to an E-mail.

Every day after working in her workshop, she dials up her account and downloads completed orders and E-mails. Immediate completed orders from visitors to her virtual catalog are very rare; more likely she receives E-mails from people interested in her plates, wanting to know more about the wood, the sizes, the process. She often has long E-mail exchanges with potential customers. Some never buy anything, but some do buy. She knows she has a sale when someone actually calls her—it's as if they just have to check that she really does exist.

As part of her E-mail experience, she has had to become adept at responding to varied questions and requests, many posed in rather broken English. But she has learned to persevere—E-mails from Japan, for example, are more often converted into sales than E-mails from Australia. Half of her products are now shipped overseas.

Recently, her business has taken an interesting turn. People suggest designs and woods to her. She then creates the

pattern and makes the plate. It's hardly what you'd call customized design since there's no guarantee that the potential buyer will purchase, but she's found out that if someone wants something in particular and it makes sense, then it's a plate that someone somewhere will buy.

The Consultant's Printer

It is Tuesday afternoon in upstate New York. A business consultant, who sells his skills to a number of corporations, is working on a proposal for a potential client in Japan. He has to complete the proposal by Wednesday afternoon. He'd actually have until Friday morning if the person requesting it would accept an E-mail attachment, but this individual wants it sent the old-fashioned way. Thus, it will spend nearly two days being physically transported halfway around the world.

While printing out a draft, tragedy occurs. The laser printer dies. It doesn't just jam, it actually *dies*. There's even some smoke. Our consultant could drive 30 minutes to the nearest computer superstore, but leaving his workplace isn't convenient at this time.

The consultant fires up his Web browser (he's *always* connected to his Internet Service Provider (ISP) when working so he can quickly respond to E-mail). There are three or four virtual stores that should stock exactly the configuration of printer he wants, and he chooses the URL of one of them from his bookmarks. It has the model, at a great price, but it is not guaranteed to be in stock. He jumps to another store and finds the model (priced a bit higher) but in stock. They can guarantee delivery to his home by midday tomorrow. He places an order; he pays for it by typing in a credit card number (which is suitably encrypted, of course).

On receiving the order, the virtual store's server passes the details to its logistics company, which holds all the store's stock packed and ready for shipping; the virtual store holds no physical inventory at its place of business. (Identifying where its place of business is, in fact, rather difficult, since the server is actually run by the store's ISP.) The payment details have already been forwarded to the appropriate credit card company. The logistic company's system schedules the package for overnight flight and gets it retrieved from the automated warehouse. It then bills the virtual store for the operation.

At 6 A.M. the next day, the package arrives in Rochester, New York. It is routed to a delivery van that starts its first route at 8 A.M. At 10:30 A.M., the consultant's front doorbell rings. At 11 A.M., he prints his draft.

INTERNETWORKING, INTRANETWORKING, AND THE WEB

These examples are not views of the future. They reflect scenarios that can, and are, happening today. The technologies that tie the four scenarios together are *Internetworking* and *intranetworking*, the ability to be able to tie computers and people together over public networks (the Internet), private networks (intranets), or some combination of the two. The set of protocols and software that makes the networking come alive is the World Wide Web (Web), probably the most talked about technology of the decade, and certainly the most written about.

To marketing people, the Web is a global marketplace (or what some call *marketspace*). To Information Systems (IS) executives, it's a cure for many corporations struggling to develop internal information and communications systems

(via intranets). To entrepreneurs, it's a market of millions of potential customers for services and products. And to Wall Street, the Web has been a source of outlandish initial public offerings (IPOs) that have seen companies ranging from technology providers like Netscape to services like the Web directory Yahoo! valued at levels far beyond any reasonable multiple of their earnings.

If the Web is the technology of the decade, then *virtual* is the word, and *cyber-* is the prefix. We have virtual work, the virtual corporation, virtual malls, and virtual communities. We have cyberspace, cybernauts, and even cybercafes.

Journalists have written more words about the Net and the Web than they wrote about the Gulf War. They have attached an almost mythical meaning to the Web, and reported it as a conduit for advertising, marketing, publishing, pornography, or junk mail as convenient. But, from a business perspective, the Web is really nothing more than a technology *enabler*. It enables us to do things differently, perhaps radically. It's the *thing* we do, however, that makes business sense, not necessarily the way it's enabled. Admittedly, the networked world now being created will result in new businesses as yet unthought of, and the Web is part of this. But just having a Web server won't make anyone rich. (Developing the software for a Web server or browser has already made those involved in some IPOs rich, but that's a different story.)

The Operations Manager gives a glimpse into one of the roles of intranetworking—the ability to publish presentations, white papers, regulations, contracts, and other documents within an organization, and have anyone quickly find them. Information Systems have traditionally been good at moving information up through organizations, with transaction data being summarized for management.

But the distribution of knowledge—plans, ideas, concepts—has in many cases been terrible. Intranets have been a revelation, allowing for the horizontal flow of information between functional areas, business units, and even vendors and suppliers (networks that some call extranets).

The Executive Student is a less obvious story. But it is perhaps the most important. Many people, not only business executives, spend much of their working life at institutions that give them knowledge. But we now have a medium for effectively transporting knowledge to them, anywhere in the world, at any time. And students can collaborate through groupware both to analyze the knowledge and to apply it. Education, particularly for those short of valuable time, should be a pull action that allows students to obtain it as needed; too often it is a packaged activity delivered at the convenience of colleges and faculty.

The Woodworker is using the Web to reach a global market through a dynamic medium. But the major factor is her ability to deal with potential customers and pleasantly close sales. The story has, perhaps, more in common with real estate and used cars than, say, producing software. Moreover, her product is changing from premade plates to customized work: By interacting with her market to her fullest extent, she learns about her market. This is straight out of the first lecture from any course in entrepreneurship. You don't learn about a market without listening to it.

In the Consultant's Printer, the Web is only part of the story. The integration of virtual retail with logistics is what allows our consultant to get his printer. The virtual store is providing a service—guaranteed delivery within a time period. The management of the product is secondary and is managed by another entity. The virtual store is created from the marriage of two technological advances—distribution logistics and Internetworking.

The Networked Organization and Customization

Another way of perceiving these scenarios, and other changes in business, is to realize that traditional organizational structures are being blown apart. We are moving to a world of networked organizations that dynamically link workers, knowledge, and customers. Ives and Javenpaa[1] paint a future of "knowledge nodes" that can be tapped to provide customized services that can then be combined and delivered anywhere in the world, perhaps electronically. A business consultant, for example, can search for and combine industry-specific expertise, financial analysis, and even the skills to produce a report and a presentation in a very short time and then deliver the combined results electronically.

A key aspect of the future is *customization:* the ability to take a generic product or service and customize it to fit the individual. Lawyers (think house closings), accountants (think tax returns), and home builders have been doing this forever. What is different now is that networking provides an environment that encourages customization. Since the knowledge and services being provided to the customer can be dynamically altered without having to rebuild physical structures or tap into different physical distribution channels, the natural tendency is to move from an a la carte operation to one that dynamically alters the service or product to fit the needs of individual customers. This is the path being taken by our Woodworker. The business school providing virtual training (or *distance learning*) is likely involved in customization by using some of its core material for all programs, and then developing new material and hiring adjunct teachers to provide additional content for a customized program.

Think how much more difficult it is to arrange these customized programs in the physical world, where content, teachers, and students must be brought together in one place and at the same time. The Web is not a necessary condition for customization, but it is a strong enabler.

Outsourcing

In business-speak, companies that add value by customization often retain core competencies and outsource noncore operations. What does this mean? Basically, if you're selling customized T-shirts on the Web (i.e., you work with the customer to create the design), then your core competencies are design and customer interaction. You don't produce the actual T-shirts, and you don't run the Web server. You also probably hire an accountant, lawyer, and other professionals when necessary.

Luckily, many entrepreneurs can get hip to this without understanding the lingo. It is unlikely that the explosion of entrepreneurship on the Web could have happened without the recent outsourcing trend in the past decade or so, and it is certain that it could not have happened so quickly. This is because many companies, ranging from logistics to networking to producing T-shirts, are lining up to sell their service to other companies. Fifteen years ago, a small direct sales operation would often package shipments and send someone down to the post office to stand in line. Now, one of a number of companies will provide you with packaging, pick up the shipment, guarantee delivery within a specified time frame, and even let you track the package using the Web and their computer systems. And all at *variable* cost, allowing a start-up enterprise to focus on marginal revenue and costs.