

The Executive's Guide to Information Technology:

**How To Increase Your
Competitive Edge**

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HOW TO INCREASE
YOUR COMPETITIVE EDGE

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Preface

We've written this book for managers who now spend vital time and resources managing the new communications and computing technologies and for the people who operate them. If you are one of these managers, you want to know what you can get out of these new technologies, but you do not have time to learn about all of their technical details. (You no more want to look inside of your computer than into the innards of your TV set!) You want to make intelligent purchases or choose the right lease. You want to take the proper steps to get the productivity that you thought you had purchased.

In all, you want to come out ahead. You want to have the edge on your competition.

The Executive's Guide to Information Technology tells you how to get the most out of the new range of equipment and services now available. We have written this book in your language—the language of the manager—not the technician. It's the language we've used many times over with the students in our "Communications Management" graduate curriculum and when serving as consultants to organizations. We know it works and will work for you.

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PART ONE

HOW TO WIN THE COMMUNICATIONS TECHNOLOGY GAME

1

BATTLEFRONTS

MANAGEMENT IN "TURBULENT TIMES"

Communication technology itself cannot make you a better manager. But what you do with it can.

If you are like many executives, you are probably getting your fill of those glossy advertisements in airline magazines and Sunday supplements about the wonders of the new desktop computers, mobile telephones, phones that talk through TV sets, word processors, management information systems, electronic mail, funds transfer, fancy copiers and even the glitter of something called the "office of the future." These images are probably frustrating to you because the not-so-subtle message is that if you do not join this office technology revolution, you won't be competitive—you *may not even survive!* They remind you that not only how you do business is changing, but the kinds of business you do needs to be re-examined. Then there is our roller-coaster economy of the last decade. As Peter Drucker has warned: you are managing in *turbulent times*. You must do something about it. But what?

The answers may be "out there" about new ways to run your business, businesses you should be into, about the new technologies, and the new "know how." But the ultimate frustration is how to make these things work in your business and in your

office. Like the proverbial good news/bad news joke, you know that you can now get the *Wall Street Journal* electronically in your home, but your spouse won't let you put your computer on the breakfast table!

No doubt about it. As we move toward the twenty-first century, staying alive by being ahead of your competitors will be difficult. The decade of the 1980s has brought this fact home. The economy of the United States is undergoing more adjustments and radical changes than it has since the great depression. Many say we are moving toward a kind of *post-industrialism*, an economy where information and knowledge are taking on increased value in and of themselves. More and more of us will be doing "information" or "knowledge" work.

It is no coincidence that we are also in an era that is witnessing unparalleled developments in the application of technologies for gathering, storing, transforming, retrieving, and reasoning from information. Just as the invention of machines to do physical work changed how we did our farming and manufacturing, so too the invention of machines to do "information work" is changing how we do business. Unless you can put this newest technological revolution to work for yourself and your business, you could well join the ranks of nineteenth-century craftsmen who refused to transfer their skills to machines. Or you could be like some twentieth-century corporations who, in the face of inflation and foreign competition, have refused to change the way they do business. Now many are out of business. As a manager, you not only need to recognize *change*, but how to take advantage of it.

FOUR CHANGES TO WATCH FOR

Look for the Integration of Communications and Computing

More than most people realize, the newest advances in information or communication technologies—whether something as apparently different as your office telephone or a multimillion-dollar computer system—reflect a common trend. This is the

convergence in our times of the technological advances of telecommunications with those of computing. Simply, telecommunications systems and computers are increasingly growing together—so much so, in fact, that it is getting more and more difficult to distinguish them. As they converge, these independently powerful technologies become mutually enhancing. Computing power can be transferred to any point on a telecommunications network. These networks are becoming ubiquitous, by wire, cable, optical fiber, satellites, and radio. Simultaneously, computers are increasingly automating the operations of telecommunication systems. Together they are “networking” the nation for the emerging information society, creating what some have called the “network marketplace.”

The miraculous electronic chip which has made possible the marriage of computing and telecommunications has itself offered us remarkable reductions in size of equipment, incredible advances in reliability, and cost reductions that do not seem to stop. This same chip has invaded every part of our lives, from controlling our microwave oven to making our car run better, from the workings of digital watches to the innards of the Pac-Man games, and from robots in factories to word processors in your office. The electronic chip will change the way you do business and the business you do.

Look for Major Changes in the Structure of the Telecommunications Industry

If the burgeoning growth of communications technologies was not enough in itself, there are monumental changes ongoing in the way that government has attempted to influence or regulate the communications and computing businesses. New applications of old technologies have provided us with more efficient ways of using that limited natural resource, the broadcast spectrum. Technological advances have exploded the possibilities for new communications and computer businesses. Old ways of regulating these businesses have been discarded and the buzz word of the 80s has turned out to be “deregulation.” Even staid old “Ma Bell,” which has taken care of our communication needs

for more than 100 years and has done that quite well—Ma Bell, the biggest corporation in history—is in the process of divesting itself of two-thirds of its holdings. AT&T has seen the future markets out there and is willing to compete for them. A new and leaner American Bell Company is leaping into the competitive fray to do battle with the IBMs, the DEC's, the CDC's and all of the alphabetic corporations that have, up to now, had the computer market to themselves.

New corporate actors are emerging in the communications and computer businesses and many will surprise you. Energy giants such as EXXON and ARCO are just as likely to be encountered in the communications and computer market as the Southern Pacific Railroad. Mitsubishi and Telematique systems and equipment will match prices on our shelves with Xerox and Wang. The Federal Communications Commission will continue to take a back seat, but look out for state and local regulators. It's a brand new marketplace!

Look for a Myriad of New Information Products and Services

There is a buyers' market emerging in communications and computing equipment and in services. Seemingly, the flood of new products and services cannot be stopped; the prospect for profits appears to be endless. You can now have the 5000 square feet of a 1950 computer on your desk top. Some of these will very likely fit in your pocket within the next few years.

Your telephone has had a rebirth, with a wide range of new services difficult for most of us to understand. (We always thought that all you did with the phone was make a call.) Now you can compute, store messages, signal people, access data files and read information, hold meetings, and see pictures. We are told that this is just the beginning.

One company was able to parlay the acceptance of data processing into selling "word processing." Now they are pushing to communicate between word processors and to send "computer mail." The personal computer was rushed to the retail marketplace from a garage and a hobby store chain.

Hardly a month goes by without an announcement of a new

and wonderful machine promising to increase significantly your office productivity, make you a better manager, save you vast numbers of hours of work, and generally make you the best of all possible managers.

It's the buyers' market of the century, it seems!

Look for New Competition

America is not unique in experiencing these changes. Nor are we the sole leader in developing them. Indeed, the Japanese, who captured the international automotive market in the 1970s, have already set their sights on the world's telecommunications and computer market, and they are not the only nation aiming for these markets. Both France and Great Britain are marketing innovative information products in the United States—the French with their Telematique and the British with their Prestel. Not to be outdone, Hong Kong, Singapore, and South Korea have greatly expanded their telecommunications and computer enterprises, all with the hope of gaining in the U.S. market. The competition promises to be fierce, and if you keep your head about you and know what you are looking for, you are going to benefit. The communications technology revolution is fueled from the combined effects of innovation, deregulation, and a highly active market place.

WHAT ARE THE BATTLEFRONTS?

There is no place where you may experience the effects of the convergence of computers and telecommunications so visibly as in the modern organization. If you are a manager, you are already on the battlefronts of the communications technology revolution.

Increasing "Per-Unit" Productivity

On the most detailed level, there is the perennial issue of productivity, not only in the factory but in the office. In either ap-

plication, new communication and computing technologies offer capabilities for increasing unit-per-hour-output. You may be buying productivity through capital investments in information technologies. This may range all the way from the use of information for control of a manufacturing process to the transfer of information that a secretary performs in the typing of a letter. Productivity on this level involves the sensing, gathering, storage, retrieval, or transformation of information.

On the near horizon is the potential for more efficiently interpreting information through the use of the information technologies. In one form or another, the near future will offer artificial intelligence, the means by which you as a manager can enhance your analytical capabilities and more rapidly and efficiently make decisions. How will this tool enhance your own productivity?

Changing How We Do Business

Robert is a banker's son who enjoys telling this story when he is on the speaker's circuit. It seems he remembers with great warmth and nostalgia the five friendly tellers in his father's bank of a half century ago. He can still see their smiles and can recall the pencils and funny note pads they gave him as gestures of affection. Today, admits Robert, his son never visits him at the bank. Perhaps it is because there are only two tellers inside and both are behind thick glass windows and are usually too busy with their push button gadgets to pay much attention to a young child. The other three tellers sit outside the bank's front door. They are metal and won't talk to anybody.

Given all the new gadgets, Robert sometimes wonders if he is still a banker. But when he sits down and really thinks about it, he realizes that he still has to accomplish many of the tasks that daily faced his father. He still keeps "the books," gathers information for loans, makes important decisions about them, and conducts daily transactions with many of the bank's customers. The contrast is that he does most of these in different ways than his father did.

Making Decisions with Information

Making decisions with information is truly the art of the manager. Unlike his or her clerical counterpart, the manager is not

so much a worker with information but a user of information. In fact, we may increasingly hear the manager referred to as a *knowledge worker*.

We cannot easily gauge the productivity of the manager because knowledge work, unlike information work, doesn't come in easily quantifiable units. Nor is it easily accessible in terms of time. Effective knowledge work depends upon the *quality* of decisions. Like his father, Robert's success as a banker will depend upon his ability to decide upon the basis of information who is a suitable loan risk. Success in this depends upon the ability to get the information you need, the ability to interpret that information, and the ability to communicate your decisions. The new technologies aid in all of these.

OLD BATTLES, NEW STRATEGIES

Perhaps you have recognized already that these battlefronts seem familiar to you. Indeed, they should be, for they are what your predecessors have done in business, and they are what you do now. You see, the battlefronts of running a business or organization have not changed. The main difference in our time is how you wage those battles, the tools you use, and in what it takes to win. The communication technology revolution is providing you with these new tools.

How you use these new tools will more than any other single factor in your management life determine your competitive edge in the years to come. You will want to win the communications technology game.

2

FOUR WAYS TO WIN

KNOW WHAT WORKS

You can win the communications technology game. But you cannot do it by always turning to long-time management experience. Most of the tools are so new (or the ways we use them are new) that there is little experience from which to draw. In fact, change has often occurred so rapidly that too much experience in the old ways is apt to be a handicap. Sometimes unlearning is more expensive than learning.

You win the game by knowing what technologies will work for you right now. This takes a combination of a few modern management principles, the recent experiences of managers who seem to be today's winners, and some common sense.

The four strategies for winning include:

1. Know what functions you are buying.
2. Know how to save your communications dollars.
3. Know the new requirements for managing change.
4. Know the most possible about the view ahead.