Managing our way to economic decline

Robert H. Hayes and William J. Abernathy

Modern management principles may cause rather than cure sluggish economic performance

How are we to fix responsibility for the current malaise of American business? Most attribute its weakened condition to the virus of inflation, the paralysis brought on by government regulation and tax policy, or the feverish price escalation by OPEC. Not quite right, say the authors. In their judgment, responsibility rests not with general economic forces alone but also with the failure of American managers to keep their companies technologically competitive over the long run. In advancing their controversial diagnosis, the authors draw on their own extensive work in the production field as well as their recent association with Harvard's International Senior Managers Program in Vevey, Switzerland. Having taken a long, hard look from abroad at how American managers operate, they propose some strong medicine for improving the health of American business.

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During the past several years American business has experienced a marked deterioration of competitive vigor and a growing unease about its overall economic well-being. This decline in both health and confidence has been attributed by economists and business leaders to such factors as the rapacity of OPEC, deficiencies in government tax and monetary policies, and the proliferation of regulation. We find these explanations inadequate.

They do not explain, for example, why the rate of productivity growth in America has declined both absolutely and relative to that in Europe and Japan. Nor do they explain why in many high-technology as well as mature industries America has lost its leadership position. Although a host of readily named forces—government regulation, inflation, monetary policy, tax laws, labor costs and constraints, fear of a capital shortage, the price of imported oil—have taken their toll on American business, pressures of this sort affect the economic climate abroad just as they do here.

A German executive, for example, will not be convinced by these explanations. Germany imports 95% of its oil (we import 50%), its government's share of gross domestic product is about 37% (ours is about 30%), and workers must be consulted on most major decisions. Yet Germany's rate of productivity growth has actually increased since 1970 and recently rose to more than four times ours. In France the situation is similar, yet today that country's productivity growth in manufacturing (despite current crises in steel and textiles) more than triples ours. No modern industrial nation is immune to the problems and

pressures besetting U.S. business. Why then do we find a disproportionate loss of competitive vigor by U.S. companies?

Our experience suggests that, to an unprecedented degree, success in most industries today requires an organizational commitment to compete in the marketplace on technological grounds—that is, to compete over the long run by offering superior products. Yet, guided by what they took to be the newest and best principles of management, American managers have increasingly directed their attention elsewhere. These new principles, despite their sophistication and widespread usefulness, encourage a preference for (1) analytic detachment rather than the insight that comes from "hands on" experience and (2) short-term cost reduction rather than long-term development of technological competitiveness. It is this new managerial gospel, we feel, that has played a major role in undermining the vigor of American industry.

American management, especially in the two decades after World War II, was universally admired for its strikingly effective performance. But times change. An approach shaped and refined during stable decades may be ill suited to a world characterized by rapid and unpredictable change, scarce energy, global competition for markets, and a constant need for innovation. This is the world of the 1980s and, probably, the rest of this century.

The time is long overdue for earnest, objective self-analysis. What exactly have American managers been doing wrong? What are the critical weaknesses in the ways that they have managed the technological performance of their companies? What is the matter with the long-unquestioned assumptions on which they have based their managerial policies and practices?

A failure of management

In the past, American managers earned worldwide respect for their carefully planned yet highly aggressive action across three different time frames:

> *Short term*—using existing assets as efficiently as possible.

> *Medium term*—replacing labor and other scarce resources with capital equipment.

> *Long term*—developing new products and processes that open new markets or restructure old ones.

The first of these time frames demanded toughness, determination, and close attention to detail; the second, capital and the willingness to take sizable financial risks; the third, imagination and a certain amount of technological daring.

Our managers still earn generally high marks for their skill in improving short-term efficiency, but their counterparts in Europe and Japan have started to question America's entrepreneurial imagination and willingness to make risky long-term competitive investments. As one such observer remarked to us: "The U.S. companies in my industry act like banks. All they are interested in is return on investment and getting their money back. Sometimes they act as though they are more interested in buying other companies than they are in selling products to customers."

In fact, this curt diagnosis represents a growing body of opinion that openly charges American managers with competitive myopia: "Somehow or other, American business is losing confidence in itself and especially confidence in its future. Instead of meeting the challenge of the changing world, American business today is making small, short-term adjustments by cutting costs and by turning to the government for temporary relief. . . . Success in trade is the result of patient and meticulous preparations, with a long period of market preparation before the rewards are available. . . . To undertake such commitments is hardly in the interest of a manager who is concerned with his or her next quarterly earnings reports." [1]

More troubling still, American managers themselves often admit the charge with, at most, a rhetorical shrug of their shoulders. In established businesses, notes one senior vice president of research: "We understand how to market, we know the technology, and production problems are not extreme. Why risk money on new businesses when good, profitable low-risk opportunities are on every side?" Says another: "It's much more difficult to come up with a synthetic meat product than a lemon-lime cake mix. But you work on the lemon-lime cake mix because you know exactly what that return is going to be. A synthetic steak is going to take a lot longer, require a much bigger investment, and the risk of failure will be greater." [2]

These managers are not alone; they speak for many. Why, they ask, should they invest dollars that are hard to earn back when it is so easy—and so much less risky—to make money in other ways?

1. Ryohei Suzuki, "Worldwide Expansion of U.S. Exports—A Japanese View," *Sloan Management Review*, Spring 1979, p. 1.

2. *Business Week*, February 16, 1976, p. 57.

3. Burton G. Malkiel, "Productivity—The Problem Behind the Headlines," HBR May-June 1979, p. 81.

Why ignore a ready-made situation in cake mixes for the deferred and far less certain prospects in synthetic steaks? Why shoulder the competitive risks of making better, more innovative products?

In our judgment, the assumptions underlying these questions are prime evidence of a broad managerial failure—a failure of both vision and leadership—that over time has eroded both the inclination and the capacity of U.S. companies to innovate.

Familiar excuses

About the facts themselves there can be little dispute. *Exhibits I-IV* document our sorry decline. But the explanations and excuses commonly offered invite a good deal of comment.

It is important to recognize, first of all, that the problem is not new. It has been going on for at least 15 years. The rate of productivity growth in the private sector peaked in the mid-1960s. Nor is the problem confined to a few sectors of our economy; with a few exceptions, it permeates our entire economy. Expenditures on R&D by both business and government, as measured in constant (noninflated) dollars, also peaked in the mid-1960s—both in absolute terms and as a percentage of GNP. During the same period the expenditures on R&D by West Germany and Japan have been rising. More important, American spending on R&D as a percentage of sales in such critical research-intensive industries as machinery, professional and scientific instruments, chemicals, and aircraft had dropped by the mid-1970s to about half its level in the early 1960s. These are the very industries on which we now depend for the bulk of our manufactured exports.

Investment in plant and equipment in the United States displays the same disturbing trends. As economist Burton G. Malkiel has pointed out: "From 1948 to 1973 the [net book value of capital equipment] per unit of labor grew at an annual rate of almost 3%. Since 1973, however, lower rates of private investment have led to a decline in that growth rate to 1.75%. Moreover, the recent composition of investment [in 1978] has been skewed toward equipment and relatively short-term projects and away from structures and relatively long-lived investments. Thus our industrial plant has tended to age. . . ." [3]

Other studies have shown that growth in the incremental capital equipment-to-labor ratio has fallen to about one-third of its value in the early 1960s. By contrast, between 1966 and 1976 capital investment as a percentage of GNP in France and West Germany was more than 20% greater than that in the United States; in Japan the percentage was almost double ours.

To attribute this relative loss of technological vigor to such things as a shortage of capital in the

Exhibit I
Growth in labor productivity since 1960 (United States and abroad)

	Average annual percent change	
	Manufacturing 1960-1978	All industries 1960-1976
United States	2.8%	1.7%
United Kingdom	2.9	2.2
Canada	4.0	2.1
Germany	5.4	4.2
France	5.5	4.3
Italy	5.9	4.9
Belgium	6.9*	–
Netherlands	6.9*	–
Sweden	5.2	–
Japan	8.2	7.5

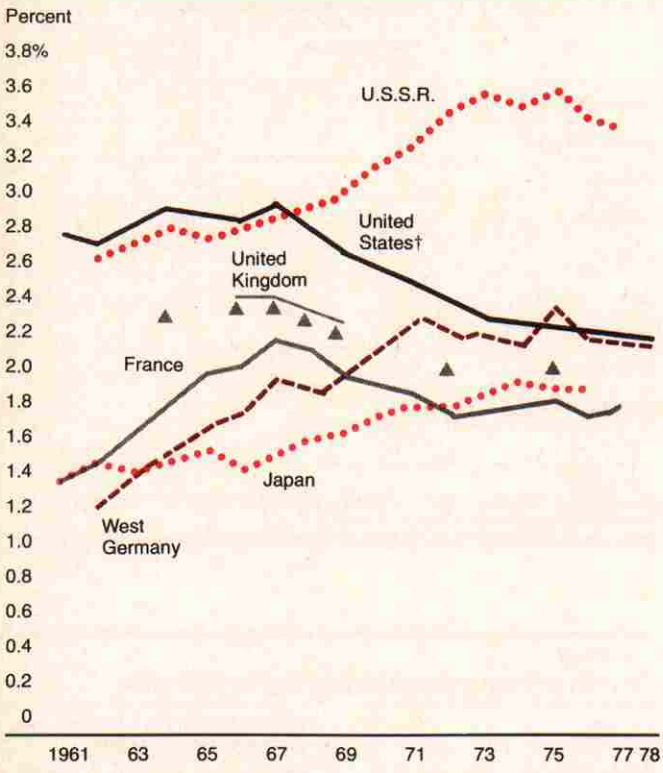
*1960-1977.
Source: Council on Wage and Price Stability, *Report on Productivity* (Washington, D.C.: Executive Office of the President, July 1979).

Exhibit II
Growth of labor productivity by sector, 1948-1978

	Growth of labor productivity (annual average percent)		
Time sector	**1948-65**	**1965-73**	**1973-78**
Private business	**3.2%**	**2.3%**	**1.1%**
Agriculture, forestry, and fisheries	5.5	5.3	2.9
Mining	4.2	2.0	−4.0
Construction	2.9	−2.2	−1.8
Manufacturing	3.1	2.4	1.7
Durable goods	2.8	1.9	1.2
Nondurable goods	3.4	3.2	2.4
Transportation	3.3	2.9	0.9
Communication	5.5	4.8	7.1
Electric, gas, and sanitary services	6.2	4.0	0.1
Trade	2.7	3.0	0.4
Wholesale	3.1	3.9	0.2
Retail	2.4	2.3	0.8
Finance, insurance, and real estate	1.0	−0.3	1.4
Services	1.5	1.9	0.5
Government enterprises	−0.8	0.9	−0.7

Source: Bureau of Labor Statistics.
Note: Productivity data for services, construction, finance, insurance, and real estate are unpublished.

Exhibit III
National expenditures for performance of R&D as a percent of GNP by country, 1961-1978*



*Gross expenditures for performance of R&D including associated capital expenditures.
†Detailed information on capital expenditures for R&D is not available for the United States. Estimates for the period 1972-1977 show that their inclusion would have an impact of less than one-tenth of 1% for each year.
Source: *Science Indicators – 1978* (Washington, D.C.: National Science Foundation, 1979), p. 6.
Note: The latest data may be preliminary or estimates.

United States is not justified. As Malkiel and others have shown, the return on equity of American business (out of which comes the capital necessary for investment) is about the same today as 20 years ago, *even after adjusting for inflation*. However, investment in both new equipment and R&D, as a percentage of GNP, was significantly higher 20 years ago than today.

The conclusion is painful but must be faced. Responsibility for this competitive listlessness belongs not just to a set of external conditions but also to the attitudes, preoccupations, and practices of American managers. By their preference for servicing existing markets rather than creating new ones and by their devotion to short-term returns and "management by the numbers," many of them have effectively forsworn long-term technological superiority as a competitive weapon. In consequence, they have abdicated their strategic responsibilities.

The new management orthodoxy

We refuse to believe that this managerial failure is the result of a sudden psychological shift among American managers toward a "super-safe, no risk" mind set. No profound sea change in the character of thousands of individuals could have occurred in so organized a fashion or have produced so consistent a pattern of behavior. Instead we believe that during the past two decades American managers have increasingly relied on principles which prize analytical detachment and methodological elegance over insight, based on experience, into the subtleties and complexities of strategic decisions. As a result, maximum short-term financial returns have become the overriding criteria for many companies.

For purposes of discussion, we may divide this *new* management orthodoxy into three general categories: financial control, corporate portfolio management, and market-driven behavior.

Financial control

As more companies decentralize their organizational structures, they tend to fix on profit centers as the primary unit of managerial responsibility. This development necessitates, in turn, greater dependence on short-term financial measurements like return on investment (ROI) for evaluating the performance of individual managers and management groups. Increasing the structural distance between those entrusted with exploiting actual competitive opportunities and those who must judge the quality of their work virtually guarantees reliance on objectively quantifiable short-term criteria.

Although innovation, the lifeblood of any vital enterprise, is best encouraged by an environment that does not unduly penalize failure, the predictable result of relying too heavily on short-term financial measures—a sort of managerial remote control—is an environment in which no one feels he or she can afford a failure or even a momentary dip in the bottom line.

Corporate portfolio management

This preoccupation with control draws support from modern theories of financial portfolio management. Originally developed to help balance the overall risk

4. Roger Bennett and Robert Cooper, "Beyond the Marketing Concept," *Business Horizons*, June 1979, p. 76.

and return of stock and bond portfolios, these principles have been applied increasingly to the creation and management of corporate portfolios—that is, a cluster of companies and product lines assembled through various modes of diversification under a single corporate umbrella. When applied by a remote group of dispassionate experts primarily concerned with finance and control and lacking hands-on experience, the analytic formulas of portfolio theory push managers even further toward an extreme of caution in allocating resources.

"Especially in large organizations," reports one manager, "we are observing an increase in management behavior which I would regard as excessively cautious, even passive; certainly overanalytical; and, in general, characterized by a studied unwillingness to assume responsibility and even reasonable risk."

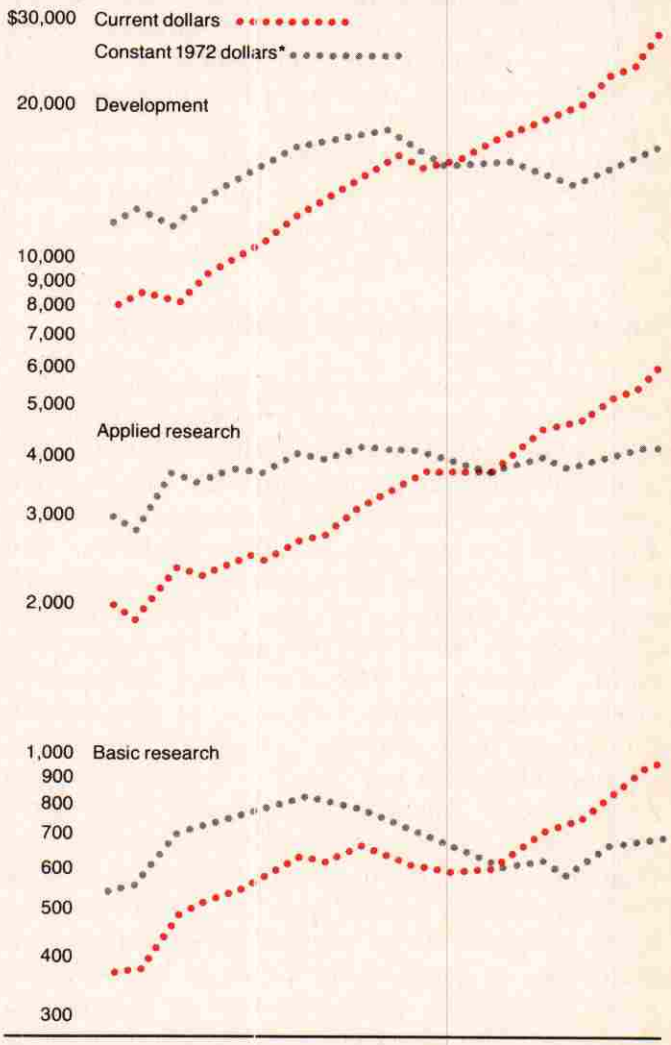
Market-driven behavior

In the past 20 years, American companies have perhaps learned too well a lesson they had long been inclined to ignore: businesses should be customer oriented rather than product oriented. Henry Ford's famous dictum that the public could have any color automobile it wished as long as the color was black has since given way to its philosophical opposite: "We have got to stop marketing makeable products and learn to make marketable products."

At last, however, the dangers of too much reliance on this philosophy are becoming apparent. As two Canadian researchers have put it: "Inventors, scientists, engineers, and academics, in the normal pursuit of scientific knowledge, gave the world in recent times the laser, xerography, instant photography, and the transistor. In contrast, worshippers of the marketing concept have bestowed upon mankind such products as new-fangled potato chips, feminine hygiene deodorant, and the pet rock. . . ." [4]

The argument that no new product ought to be introduced without managers undertaking a market analysis is common sense. But the argument that consumer analyses and formal market surveys should dominate other considerations when allocating resources to product development is untenable. It may be useful to remember that the initial market estimate for computers in 1945 projected total worldwide sales of only ten units. Similarly, even the most carefully researched analysis of consumer preferences for gas-guzzling cars in an era of gasoline abundance offers little useful guidance to today's automobile manufacturers in making wise product investment decisions. Customers may know what their needs are, but they often define those needs in terms of existing products, processes, markets, and prices.

Exhibit IV
Industrial R&D expenditures for basic research, applied research, and development, 1960-1978 (in $ millions)



*GNP implicit price deflators used to convert current dollars to constant 1972 dollars.
Source: *Science Indicators – 1978*, p. 87.
Note: Preliminary data are shown for 1977 and estimates for 1978.

Deferring to a market-driven strategy without paying attention to its limitations is, quite possibly, opting for customer satisfaction and lower risk in the short run at the expense of superior products in the future. Satisfied customers are critically important, of course, but not if the strategy for creating them is responsible as well for unnecessary product proliferation, inflated costs, unfocused diversification, and a lagging commitment to new technology and new capital equipment.

Three managerial decisions

These are serious charges to make. But the unpleasant fact of the matter is that, however useful these new principles may have been initially, if carried too far they are bad for U.S. business. Consider, for example, their effect on three major kinds of choices regularly faced by corporate managers: the decision between imitative and innovative product design, the decision to integrate backward, and the decision to invest in process development.

Imitative vs. innovative product design

A market-driven strategy requires new product ideas to flow from detailed market analysis or, at least, to be extensively tested for consumer reaction before actual introduction. It is no secret that these requirements add significant delays and costs to the introduction of new products. It is less well known that they also predispose managers toward developing products for existing markets and toward product designs of an imitative rather than an innovative nature. There is increasing evidence that market-driven strategies tend, over time, to dampen the general level of innovation in new product decisions.

Confronted with the choice between innovation and imitation, managers typically ask whether the marketplace shows any consistent preference for innovative products. If so, the additional funding they require may be economically justified; if not, those funds can more properly go to advertising, promoting, or reducing the prices of less-advanced products. Though the temptation to allocate resources so as to strengthen performance in existing products and markets is often irresistible, recent studies by J. Hugh Davidson and others confirm the strong market attractiveness of innovative products.[5]

Nonetheless, managers having to decide between innovative and imitative product design face a difficult series of marketing-related trade-offs. *Exhibit V* summarizes these trade-offs.

By its very nature, innovative design is, as Joseph Schumpeter observed a long time ago, initially destructive of capital—whether in the form of labor skills, management systems, technological processes, or capital equipment. It tends to make obsolete existing investments in both marketing and manufacturing organizations. For the managers concerned it represents the choice of uncertainty (about economic returns, timing, etc.) over relative predictability, exchanging the reasonable expectation of current income against the promise of high future value. It is the choice of the gambler, the person willing to risk much to gain even more.

Conditioned by a market-driven strategy and held closely to account by a "results now" ROI-oriented control system, American managers have increasingly refused to take the chance on innovative product/market development. As one of them confesses: "In the last year, on the basis of high capital risk, I turned down new products at a rate at least twice what I did a year ago. But in every case I tell my people to go back and bring me some new product ideas."[6] In truth, they have learned caution so well that many are in danger of forgetting that market-driven, follow-the-leader companies usually end up following the rest of the pack as well.

Backward integration

Sometimes the problem for managers is not their reluctance to take action and make investments but that, when they do so, their action has the unintended result of reinforcing the status quo. In deciding to integrate backward because of apparent short-term rewards, managers often restrict their ability to strike out in innovative directions in the future.

Consider, for example, the case of a manufacturer who purchases a major component from an outside company. Static analysis of production economies may very well show that backward integration offers rather substantial cost benefits. Eliminating certain purchasing and marketing functions, centralizing overhead, pooling R&D efforts and resources, coordinating design and production of both product and component, reducing uncertainty over design changes, allowing for the use of more specialized equipment and labor skills—in all these ways and more, backward integration holds out to management the promise of significant short-term increases in ROI.

These efficiencies may be achieved by companies with commoditylike products. In such industries as ferrous and nonferrous metals or petroleum, backward integration toward raw materials and supplies tends to have a strong, positive effect on profits. However, the situation is markedly different for companies in more technologically active industries. Where there is considerable exposure to rapid technological advances, the promised value of backward integration becomes problematic. It may provide a

5. J. Hugh Davidson, "Why Most New Consumer Brands Fail," HBR March-April 1976, p. 117.

6. *Business Week*, February 16, 1976, p. 57.

quick, short-term boost to ROI figures in the next annual report, but it may also paralyze the long-term ability of a company to keep on top of technological change.

The real competitive threats to technologically active companies arise less from changes in ultimate consumer preference than from abrupt shifts in component technologies, raw materials, or production processes. Hence those managers whose attention is too firmly directed toward the marketplace and near-term profits may suddenly discover that their decision to make rather than buy important parts has locked their companies into an outdated technology.

Further, as supply channels and manufacturing operations become more systematized, the benefits from attempts to "rationalize" production may well be accompanied by unanticipated side effects. For instance, a company may find itself shut off from the R&D efforts of various independent suppliers by becoming their competitor. Similarly, the commitment of time and resources needed to master technology back up the channel of supply may distract a company from doing its own job well. Such was the fate of Bowmar, the pocket calculator pioneer, whose attempt to integrate backward into semiconductor production so consumed management attention that final assembly of the calculators, its core business, did not get the required resources.

Long-term contracts and long-term relationships with suppliers can achieve many of the same cost benefits as backward integration without calling into question a company's ability to innovate or respond to innovation. European automobile manufacturers, for example, have typically chosen to rely on their suppliers in this way; American companies have followed the path of backward integration. The resulting trade-offs between production efficiencies and innovative flexibility should offer a stern warning to those American managers too easily beguiled by the lure of short-term ROI improvement. A case in point: the U.S. auto industry's huge investment in automating the manufacture of cast-iron brake drums probably delayed by more than five years its transition to disc brakes.

Process development

In an era of management by the numbers, many American managers—especially in mature industries—are reluctant to invest heavily in the development of new manufacturing processes. When asked to explain their reluctance, they tend to respond in fairly predictable ways. "We can't afford to design new capital equipment for just our own manufacturing needs" is one frequent answer. So is: "The capital equipment producers do a much better job, and they can amortize their development costs over sales to many companies." Perhaps most common is: "Let the others experiment in manufacturing; we can learn from their mistakes and do it better."

Exhibit V
Trade-offs between imitative and innovative design for an established product line

Imitative design	Innovative design
Market demand is relatively well known and predictable.	Potentially large but unpredictable demand; the risk of a flop is also large.
Market recognition and acceptance are rapid.	Market acceptance may be slow initially, but the imitative response of competitors may also be slowed.
Readily adaptable to existing market, sales, and distribution policies.	May require unique, tailored marketing distribution and sales policies to educate customers or because of special repair and warranty problems.
Fits with existing market segmentation and product policies.	Demand may cut across traditional marketing segments, disrupting divisional responsibilities and cannibalizing other products.

Each of these comments rests on the assumption that essential advances in process technology can be appropriated more easily through equipment purchase than through in-house equipment design and development. Our extensive conversations with the managers of European (primarily German) technology-based companies have convinced us that this assumption is not as widely shared abroad as in the United States. Virtually across the board, the European managers impressed us with their strong commitment to increasing market share through internal development of advanced process technology—even when their suppliers were highly responsive to technological advances.

By contrast, American managers tend to restrict investments in process development to only those items likely to reduce costs in the short run. Not all are happy with this. As one disgruntled executive told us: "For too long U.S. managers have been taught to set low priorities on mechanization projects, so that eventually divestment appears to be the best way out of manufacturing difficulties. Why?

"The drive for short-term success has prevented managers from looking thoroughly into the matter of special manufacturing equipment, which has to be invented, developed, tested, redesigned, reproduced, improved, and so on. That's a long process, which needs experienced, knowledgeable, and dedi-

cated people who stick to their jobs over a considerable period of time. Merely buying new equipment (even if it is possible) does not often give the company any advantage over competitors."

We agree. Most American managers seem to forget that, even if they produce new products with their existing process technology (the same "cookie cutter" everyone else can buy), their competitors will face a relatively short lead time for introducing similar products. And as Eric von Hipple's studies of industrial innovation show, the innovations on which new industrial equipment is based usually originate with the user of the equipment and not with the equipment producer.[7] In other words, companies can make products more profitable by investing in the development of their own process technology. Proprietary processes are every bit as formidable competitive weapons as proprietary products.

The American managerial ideal

Two very important questions remain to be asked: (1) Why should so many American managers have shifted so strongly to this new managerial orthodoxy? and (2) Why are they not more deeply bothered by the ill effects of those principles on the long-term technological competitiveness of their companies? To answer the first question, we must take a look at the changing career patterns of American managers during the past quarter century; to answer the second, we must understand the way in which they have come to regard their professional roles and responsibilities as managers.

The road to the top

During the past 25 years the American manager's road to the top has changed significantly. No longer does the typical career, threading sinuously up and through a corporation with stops in several functional areas, provide future top executives with intimate hands-on knowledge of the company's technologies, customers, and suppliers.

Exhibit VI summarizes the currently available data on the shift in functional background of newly appointed presidents of the 100 largest U.S. corporations. The immediate significance of these figures is clear. Since the mid-1950s there has been a rather substantial increase in the percentage of new company presidents whose primary interests and expertise lie in the financial and legal areas and not in production. In the view of C. Jackson Grayson, president of the American Productivity Center, American management has for 20 years "coasted off the great R&D gains made during World War II, and constantly rewarded executives from the marketing, financial, and legal sides of the business while it ignored the production men. Today [in business schools] courses in the production area are almost nonexistent." [8]

In addition, companies are increasingly choosing to fill new top management posts from outside their own ranks. In the opinion of foreign observers, who are still accustomed to long-term careers in the same company or division, "High-level American executives . . . seem to come and go and switch around as if playing a game of musical chairs at an Alice in Wonderland tea party."

Far more important, however, than any absolute change in numbers is the shift in the general sense of what an aspiring manager has to be "smart about" to make it to the top. More important still is the broad change in attitude such trends both encourage and express. What has developed, in the business community as in academia, is a preoccupation with a false and shallow concept of the professional manager, a "pseudo-professional" really—an individual having no special expertise in any particular industry or technology who nevertheless can step into an unfamiliar company and run it successfully through strict application of financial controls, portfolio concepts, and a market-driven strategy.

The gospel of pseudo-professionalism

In recent years, this idealization of pseudo-professionalism has taken on something of the quality of a corporate religion. Its first doctrine, appropriately enough, is that neither industry experience nor hands-on technological expertise counts for very much. At one level, of course, this doctrine helps to salve the conscience of those who lack them. At another, more disturbing level it encourages the faithful to make decisions about technological matters simply as if they were adjuncts to finance or marketing decisions. We do not believe that the technological issues facing managers today can be meaningfully addressed without taking into account marketing or financial considerations; on the other hand, neither can they be resolved with the same methodologies applied to these other fields.

7. Eric von Hippel, "The Dominant Role of Users in the Scientific Instrument Innovation Process," MIT Sloan School of Management Working Paper 75-764, January 1975.

8. *Dun's Review*, July 1978, p. 39.

Complex modern technology has its own inner logic and developmental imperatives. To treat it as if it were something else—no matter how comfortable one is with that other kind of data—is to base a competitive business on a two-legged stool, which must, no matter how excellent the balancing act, inevitably fall to the ground.

More disturbing still, true believers keep the faith on a day-to-day basis by insisting that as issues rise up the managerial hierarchy for decision they be progressively distilled into easily quantifiable terms. One European manager, in recounting to us his experiences in a joint venture with an American company, recalled with exasperation that "U.S. managers want everything to be simple. But sometimes business situations are not simple, and they cannot be divided up or looked at in such a way that they become simple. They are messy, and one must try to understand all the facets. This appears to be alien to the American mentality."

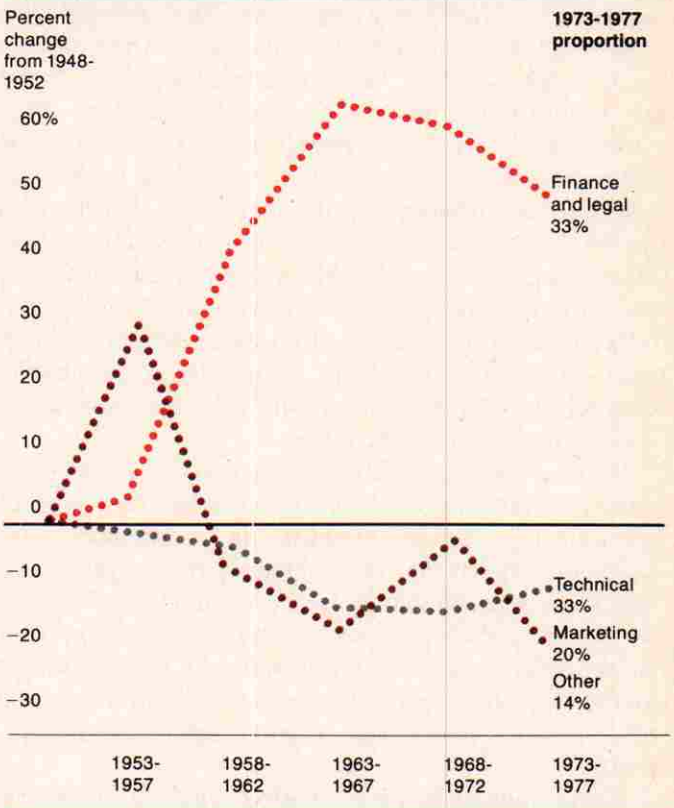
The purpose of good organizational design, of course, is to divide responsibilities in such a way that individuals have relatively easy tasks to perform. But then these differentiated responsibilities must be pulled together by sophisticated, broadly gauged integrators at the top of the managerial pyramid. If these individuals are interested in but one or two aspects of the total competitive picture, if their training includes a very narrow exposure to the range of functional specialties, if—worst of all—they are devoted simplifiers themselves, who will do the necessary integration? Who will attempt to resolve complicated issues rather than try to uncomplicate them artificially? At the strategic level there are no such things as pure production problems, pure financial problems, or pure marketing problems.

Merger mania

When executive suites are dominated by people with financial and legal skills, it is not surprising that top management should increasingly allocate time and energy to such concerns as cash management and the whole process of corporate acquisitions and mergers. This is indeed what has happened. In 1978 alone there were some 80 mergers involving companies with assets in excess of $100 million each; in 1979 there were almost 100. This represents roughly $20 billion in transfers of large companies from one owner to another—two-thirds of the total amount spent on R&D by American industry.

In 1978 *Business Week* ran a cover story on cash management in which it stated that "the 400 largest

Exhibit VI
Changes in the professional origins of corporate presidents (percent changes from baseline years [1948-1952] for 100 top U.S. companies)



Source: Golightly & Co. International (1978).

U.S. companies together have more than $60 billion in cash—almost triple the amount they had at the beginning of the 1970s." The article also described the increasing attention devoted to—and the sophisticated and exotic techniques used for—managing this cash hoard.

There are perfectly good reasons for this flurry of activity. It is entirely natural for financially (or legally) trained managers to concentrate on essentially financial (or legal) activities. It is also natural for managers who subscribe to the portfolio "law of large numbers" to seek to reduce total corporate risk by parceling it out among a sufficiently large number of separate product lines, businesses, or technologies. Under certain conditions it may very well make good economic sense to buy rather than build new plants or modernize existing ones. Mergers are obviously an exciting game; they tend to produce fairly quick and decisive results, and they offer the kind of public recognition that helps careers along. Who can doubt the appeal of the titles awarded by the financial community; being called

a "gunslinger," "white knight," or "raider" can quicken anyone's blood.

Unfortunately, the general American penchant for separating and simplifying has tended to encourage a diversification away from core technologies and markets to a much greater degree than is true in Europe or Japan. U.S. managers appear to have an inordinate faith in the portfolio law of large numbers—that is, by amassing enough product lines, technologies, and businesses, one will be cushioned against the random setbacks that occur in life. This might be true for portfolios of stocks and bonds, where there is considerable evidence that setbacks *are* random. Businesses, however, are subject not only to random setbacks such as strikes and shortages but also to carefully orchestrated attacks by competitors, who focus all their resources and energies on one set of activities.

Worse, the great bulk of this merger activity appears to have been absolutely wasted in terms of generating economic benefits for stockholders. Acquisition experts do not necessarily make good managers. Nor can they increase the value of their shares by merging two companies any better than their shareholders could do individually by buying shares of the acquired company on the open market (at a price usually below that required for a takeover attempt).

There appears to be a growing recognition of this fact. A number of U.S. companies are now divesting themselves of previously acquired companies; others (for example, W.R. Grace) are proposing to break themselves up into relatively independent entities. The establishment of a strong competitive position through in-house technological superiority is by nature a long, arduous, and often unglamorous task. But it is what keeps a business vigorous and competitive.

The European example

Gaining competitive success through technological superiority is a skill much valued by the seasoned European (and Japanese) managers with whom we talked. Although we were able to locate few hard statistics on their actual practice, our extensive investigations of more than 20 companies convinced us that European managers do indeed tend to differ significantly from their American counterparts. In fact, we found that many of them were able to articulate these differences quite clearly.

In the first place, European managers think themselves more pointedly concerned with how to survive over the long run under intensely competitive conditions. Few markets, of course, generate price competition as fierce as in the United States, but European companies face the remorseless necessity of exporting to other national markets or perishing.

The figures here are startling: manufactured product exports represent more than 35% of total manufacturing sales in France and Germany and nearly 60% in the Benelux countries, as against not quite 10% in the United States. In these export markets, moreover, European products must hold their own against "world class" competitors, lower-priced products from developing countries, and American products selling at attractive devalued dollar prices. To survive this competitive squeeze, European managers feel they must place central emphasis on producing technologically superior products.

Further, the kinds of pressures from European labor unions and national governments virtually force them to take a consistently long-term view in decision making. German managers, for example, must negotiate major decisions at the plant level with worker-dominated works councils; in turn, these decisions are subject to review by supervisory boards (roughly equivalent to American boards of directors), half of whose membership is worker elected. Together with strict national legislation, the pervasive influence of labor unions makes it extremely difficult to change employment levels or production locations. Not surprisingly, labor costs in Northern Europe have more than doubled in the past decade and are now the highest in the world.

To be successful in this environment of strictly constrained options, European managers feel they must employ a decision-making apparatus that grinds very fine—and very deliberately. They must simply outthink and outmanage their competitors. Now, American managers also have their strategic options hedged about by all kinds of restrictions. But those restrictions have not yet made them as conscious as their European counterparts of the long-term implications of their day-to-day decisions.

As a result, the Europeans see themselves as investing more heavily in cutting-edge technology than the Americans. More often than not, this investment is made to create new product opportunities in advance of consumer demand and not merely in response to market-driven strategy. In case after case, we found the Europeans striving to develop the products and process capabilities with which to lead markets and not simply responding to the current demands of the marketplace. Moreover, in doing this

they seem less inclined to integrate backward and more likely to seek maximum leverage from stable, long-term relationships with suppliers.

Having never lost sight of the need to be technologically competitive over the long run, European and Japanese managers are extremely careful to make the necessary arrangements and investments today. And their daily concern with the rather basic issue of long-term survival adds perspective to such matters as short-term ROI or rate of growth. The time line by which they manage is long, and it has made them painstakingly attentive to the means for keeping their companies technologically competitive. Of course they pay attention to the numbers. Their profit margins are usually lower than ours, their debt ratios higher. Every tenth of a percent is critical to them. But they are also aware that tomorrow will be no better unless they constantly try to develop new processes, enter new markets, and offer superior—even unique—products. As one senior German executive phrased it recently, "We look at rates of return, too, but only after we ask 'Is it a good product?' " [9]

Creating economic value

Americans traveling in Europe and Asia soon learn they must often deal with criticism of our country. Being forced to respond to such criticism can be healthy, for it requires rethinking some basic issues of principle and practice.

We have much to be proud about and little to be ashamed of relative to most other countries. But sometimes the criticism of others is uncomfortably close to the mark. The comments of our overseas competitors on American business practices contain enough truth to require our thoughtful consideration. What is behind the decline in competitiveness of U.S. business? Why do U.S. companies have such apparent difficulties competing with foreign producers of established products, many of which originated in the United States?

For example, Japanese televisions dominate some market segments, even though many U.S. producers now enjoy the same low labor cost advantages of offshore production. The German machine tool and automotive producers continue their inroads into U.S. domestic markets, even though their labor rates are now higher than those in the United States and the famed German worker in German factories is almost as likely to be Turkish or Italian as German.

The responsibility for these problems may rest in part on government policies that either overconstrain or undersupport U.S. producers. But if our foreign critics are correct, the long-term solution to America's problems may not be correctable simply by changing our government's tax laws, monetary policies, and regulatory practices. It will also require some fundamental changes in management attitudes and practices.

It would be an oversimplification to assert that the only reason for the decline in competitiveness of U.S. companies is that our managers devote too much attention and energy to using existing resources more efficiently. It would also oversimplify the issue, although possibly to a lesser extent, to say that it is due purely and simply to their tendency to neglect technology as a competitive weapon.

Companies cannot become more innovative simply by increasing R&D investments or by conducting more basic research. Each of the decisions we have described directly affects several functional areas of management, and major conflicts can only be reconciled at senior executive levels. The benefits favoring the more innovative, aggressive option in each case depend more on intangible factors than do their efficiency-oriented alternatives.

Senior managers who are less informed about their industry and its confederation of parts suppliers, equipment suppliers, workers, and customers or who have less time to consider the long-term implications of their interactions are likely to exhibit a noninnovative bias in their choices. Tight financial controls with a short-term emphasis will also bias choices toward the less innovative, less technologically aggressive alternatives.

The key to long-term success—even survival—in business is what it has always been: to invest, to innovate, to lead, to create value where none existed before. Such determination, such striving to excel, requires leaders—not *just* controllers, market analysts, and portfolio managers. In our preoccupation with the braking systems and exterior trim, we may have neglected the drive trains of our corporations. ▽

9. *Business Week*, March 3, 1980, p. 76.