

In a fast-changing world, what worked yesterday probably doesn't work today. One of the fathers of modern management theory herein argues that much of what is now taught and believed about the practice of management is either wrong or seriously out of date.

## **Management's New Paradigms**

**By Peter F. Drucker**

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AS WE ADVANCE deeper into the knowledge economy, the basic assumptions underlying much of what is taught and practiced in the name of management are hopelessly out of date.

As every seasoned executive has learned, few policies remain valid for as long as 20 to 30 years. Nor do most assumptions about the economy, about business, about technology remain valid longer than that. Yet most of our assumptions about business, technology and organization are at least 50 years old. They have outlived their time.

As a result, we are preaching, teaching and practicing policies that are increasingly at odds with reality and therefore counterproductive. This essay attempts to reexamine these assumptions and practices. Basic assumptions about reality are the paradigms of a social science. These assumptions about reality determine what the discipline focuses on. The assumptions also largely determine what is pushed aside as an annoying exception. Get the assumptions wrong and everything that follows from them is wrong.

Mary Parker Follett (1868-1933) was one of the most insightful of the early management scholars. But her work was ignored for decades because her assumptions differed from those that prevailed when management was becoming a discipline in the 1930s.

Follett preached the use of conflict to create understanding. She believed in managing for increased yield and that increased yield could be achieved through better understanding among employees. Follett was out of tune on two scores. The 1930s were Marxist-tainted, and Marxists believed that class conflict was unresolvable. The Thirties also believed that cost-cutting was the essence of good management.

Yet we now know that Follett was closer to reality about society, people and management than were the theorists and practitioners who ignored her work.

These assumptions that determine what we pay attention to and what we ignore are usually held subconsciously by the scholars, the writers, the teachers, the practitioners in the field. Thus, they are rarely analyzed, rarely studied, rarely challenged—indeed rarely even made explicit.

Because the generally held assumptions about management no longer apply, it is important that we first make them explicit, and then replace them with assumptions that better fit today's reality.

For a social discipline, such as management, the assumptions are actually a good deal more important than are the paradigms for a natural science. The paradigm—that is, the prevailing general theory—has no impact on the natural universe. Whether the paradigm

states that the sun rotates around the earth, or that, on the contrary, the earth rotates around the sun, has no effect on sun and earth. But a social discipline, such as management, deals with the behavior of people and human institutions. The social universe has no "natural laws" as the physical sciences do. It is thus subject to continuous change. This means that assumptions that were valid yesterday can become invalid and, indeed, totally misleading in no time at all.

That's where we are today with the discipline of management.

What are the assumptions that are leading management astray?

Underlying today's orthodoxy, for instance, is a basic assumption that has been held by practically all management theorists and by most practitioners since the earliest days of thinking about organization; that is, since Henri Fayol in France and Walter Rathenau in Germany around 1900. It has been taken for granted that there is one right form of organization.

Fayol laid down the principle that there was one right structure for every manufacturing enterprise: a functional division into engineering, manufacturing, selling, finance and personnel, each division to be managed separately and to come together only at the level of the chief executive.

Though theories about what constitutes the right organization have changed several times in the past century, practitioners and students of management still hold the assumption that there is a single right form of organization for every business.

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This is just one of seven underlying assumptions about organization that are out of date:

- *That there is only one right way to organize a business.*
- *That the principles of management apply only to business organizations.*
- *That there is a single right way to manage people.* Way back, the right way was top-down control—centralization. Later, decentralization came into vogue. Today the team approach is considered to be ideal.
- *That technologies, markets and end-uses are fixed and rarely overlap.* That is, each industry has a specific technology and a specific market.
- *That management's scope is legally defined as applying only to an organization's assets and employees.*

•*That management's job is to "run the business" rather than to concentrate on what is happening outside the business. That is, management is internally, not externally, focused.*

•*That national boundaries define the ecology of enterprise and management.*

Until the early 1980s all but the first of these now outdated assumptions were close enough to reality to be useful. In this essay I will show why every one of these assumptions is now either wrong, out of date or both. Failing to abandon them in fast-changing reality can cause your business to fail and your career to flounder.

## **MANAGEMENT AS A DISCIPLINE**

Until the early 1980s all but the first of these assumptions were close enough to reality to be operational, but today they are far removed from reality. Indeed, reality is fast becoming the very opposite of what these assumptions claim.

In this essay I will try to think through these assumptions and formulate new ones to fit a fast-changing reality.

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### **Management's New Paradigms**

## **THE DISCIPLINE OF MANAGEMENT**

We today tend to think of management as business management. Management writers, management practitioners and the laity do not even hear the word "management"; they automatically hear "business management."

This assumption regarding the universe of management is of fairly recent origin. Before the 1930s the handful of writers and thinkers who concerned themselves with management—beginning with Frederick Winslow Taylor around the turn of the century and ending with Chester Barnard just before World War II—assumed that business management is just a subspecies of general management.

To them "management" applied to any kind of organization, not just business. An organization was an organization, and they differed only in the way that one breed of dog is different from another breed of dog.

The first practical application of management theory did not take place in a business but in nonprofits and government agencies. Taylor (1856-1915), the inventor of "scientific management," in all probability also coined the terms "management" and "consultant" in their present meaning. On his calling card he identified himself as "Consultant to Management." He deliberately chose these unfamiliar terms to shock potential clients into awareness of his offering something totally new.

But Taylor did not cite a business as the "perfect example of scientific management" in his 1912 testimony before the Congress, which first made the U.S. management-conscious. He cited the nonprofit Mayo Clinic. The most publicized application of Taylor's scientific management (though aborted by union pressure) was not in a business but in the government-owned and -run Watertown Arsenal.

The first job to which the term "manager" in its present meaning was applied was not in business. It was the city manager—an American invention of the early years of the century.

The first conscious and systematic application of management principles similarly was not in a business. It was in the reorganization of the U.S. Army in 1901 by Elihu Root (1845-1937), Theodore Roosevelt's secretary of war.

The first management congress—Prague in 1922—was organized not by business people but by Herbert Hoover, then U.S. secretary of commerce, and Thomas Masaryk, a world-famous historian and the founding president of the new Czechoslovak Republic.

Mary Parker Follett, whose work on management began at roughly the same time, never differentiated between business management and nonbusiness management.

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The identification of management with business management began only with the Great Depression, which bred hostility to business and contempt for business executives. In order not to be tarred with the business brush, management in the public sector was rechristened public administration and proclaimed a separate discipline—with its own university departments, its own terminology, its own career ladder. What had begun as a study of management in the rapidly growing hospital sector (e.g., by Raymond Sloan, the younger brother of GM's Alfred Sloan) was split off as a separate discipline and christened hospital administration.

Not to be called "management" was, in other words, political correctness in the Depression years. Hospitals and governments wanted to be thought of as somehow less "capitalistic."

In the postwar period, however, the fashion changed. By 1950 "business" had become a good word—largely the result of the performance of American business management

during World War II. We are finally catching up with this reality: Witness the renaming of so many business schools as schools of management; the rapidly growing offerings in "nonprofit management" by these schools; the emergence of executive management programs recruiting both business and nonbusiness executives; even the emergence of departments of pastoral management in divinity schools.

But the assumption that management is business management still persists. It is therefore important to assert—and to do so loudly—that management is *not* business management, any more than, say, medicine is obstetrics.

There are, of course, differences in management between different organizations—mission defines strategy, after all, and strategy defines structure. But the differences between managing a chain of retail stores and managing a Roman Catholic diocese are amazingly fewer than either retail executives or bishops realize.

The differences are mainly in application rather than in principles. The executives of all these organizations spend, for instance, about the same amount of their time on people problems—and the people problems are almost always the same.

So whether you are managing a software company, a hospital, a bank or a Boy Scout organization, the differences apply to only about 10% of your work. This 10% is determined by the organization's specific mission, its specific culture, its specific history and its specific vocabulary. The rest is pretty much interchangeable.

The differences with respect to the last 10% are no greater between businesses and nonbusinesses than they are between businesses in different industries, e.g., between a multinational bank and a toy manufacturer.

Why is it important to break down the artificial distinction between business and nonbusiness organization? Because the growth sector of a developed society in the 21st century is most unlikely to be business—in fact, business has not even been the growth sector of the 20th century in developed societies. A far smaller proportion of the working population in every developed country is now engaged in business than it was a hundred years ago.

Then virtually everybody in the working population made his living in economic activities (mostly farming). The growth sectors in the 20th century in developed countries have been in nonbusiness—in government, in the professions, in health care, in education. In the 21st century that trend is going to continue with a vengeance.

So the nonprofit social sector is where management is today most needed and where systematic, principled, theory-based management can yield the greatest results fastest. Just think of the enormous problems facing the world—poverty, health care, education, international tension—and the need for managed solutions becomes loud and clear.

Continued from [The discipline of management](#)

**THE ONE RIGHT ORGANIZATION**

Concern with management and its study began with the sudden emergence of large organizations. A standing army was the novelty of late 19th-century society. Businesses and governmental civil services were other large organizations that developed around the same time.

And from the very beginning, more than a century ago, the study of organization has rested on one assumption: *that there is or must be a single "right" form of organization*. That one-size-fits-all idea persists today.

What is presented as the "one right organization" has changed more than once. But the search for the one-fits-all organization continues today.

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Organization structure in business was first tackled in France, around the turn of the century, by Henri Fayol (1841-1925), the head of one of Europe's largest but also totally disorganized enterprises, a coal-mining company (he did not, however, publish his book until 1916). As in Europe, so in the U.S.: The first management theorists were practicing businesspeople: John D. Rockefeller Sr., J. P. Morgan and, especially, Andrew Carnegie (who still deserves to be studied and who had the most lasting impact). A little later, Elihu Root applied organization theory to the U.S. Army. It is hardly coincidence that Root had been Carnegie's legal adviser.

These were the days when really large-scale business organizations were just emerging and their managers had to evolve their discipline as they went along. There were no texts to consult, no consultants. In a sense they learned from each other. Georg Siemens (1839-1901), the founder in 1870 of the Deutsche Bank, adopted, around 1895, the organizational concepts of his friend Fayol to save the rapidly foundering Siemens Electric Co. his cousin Werner von Siemens (1816-1892) had founded but had left leaderless at his death.

Yet the need for organizational structure was by no means obvious to everybody in these early years. Frederick Winslow Taylor did not see it at all. Until his death he wrote and talked of "the owners and their helpers." Well into this century, many businesses still ran on the owners-and-helpers nonorganization concept. Right up to his death in 1947, Henry Ford tried to run what for many years was the world's largest manufacturing company that way—with unfortunate results.

World War I made clear the need for a formal organizational structure. Managing tens of millions of soldiers and refocusing whole economies on war production made formal organization indispensable. The war showed, however, that Fayol's (and Carnegie's) functional structure was not the one right organization for massive undertakings. Their highly centralized management just couldn't work on that scale. Decision-making had to push down into the organization.

Thus immediately after World War I, first Pierre S. du Pont (1870-1954), and then Alfred Sloan (1875-1966), developed decentralization. It soon became the managerial mantra, the one right way.

And now, in the last few years, we have come to tout the team as the one right organization for pretty much everything.

By now, however, it should have become clear that there is no such thing as the one right organization. There are only organizations, each of which has distinct strengths, distinct limitations and specific applications. It has become clear that organization is not an absolute. It is a tool for making people productive in working together. As such, a given organizational structure fits certain tasks in certain conditions and at certain times.

For example, one hears a great deal today about "the end of hierarchy." This is blatant nonsense. In any institution there has to be a final authority, that is, a "boss"—someone who can make the final decision and who can then expect to be obeyed. In a situation of common peril—and every institution is likely to encounter it sooner or later. If the ship founders, the captain does not call a meeting; the captain gives an order. And if the ship is to be saved, everyone must obey the order, must know exactly where to go and what to do and do it without "participation" or argument. Hierarchy, and the unquestioning acceptance of it by everyone in the organization, is the only hope in a crisis.

But what is the right organization to handle crisis is not the right organization for all tasks. Sometimes the team approach is the right answer.

In fact, in the pharmaceutical industry, the team approach was applied successfully long before the current enthusiasm for it. Since around 1950, first in Switzerland, then in the U.S., pharmaceutical companies have used teams to develop and introduce new prescription drugs. As soon as the basic science has been developed, medical people, manufacturing people, financial people and patent experts work together in development teams. The team doesn't disband, its purpose achieved, until the drug is actually on the market. Yet within these same companies, other projects—such as converting a prescription drug into an over-the-counter product—are handled by conventional functional organization.

Henri Fayol assumed the "typical manufacturing enterprise." Alfred Sloan in the 1920s organized each of General Motors' decentralized divisions exactly the same way.

Thirty years later, in the massive reorganization of the U.S. General Electric Co. in the early 1950s, the same principle held: that there was only one way to organize work. A small unit of a few dozen researchers, engaged solely on development work for the U.S. Air Force, was to be organized almost exactly like a huge department employing several thousand people and manufacturing a toaster or an electric generator. The small development group was actually saddled with manufacturing, personnel, financial and public relations managers.

In any enterprise—probably even in Fayol's typical manufacturing business—there is need for a number of different organizational structures coexisting side by side.

Take managing foreign currency exposure, an increasingly critical—and increasingly difficult—task. This requires total centralization. No one unit of the enterprise can be permitted to handle its own foreign-currency exposures. But in the same enterprise, serving the customer, especially in high-tech areas, requires almost complete local autonomy—going way beyond traditional decentralization. Each of the individual service people must be the "boss," with the rest of the organization taking its direction from him or her.

There are thus vast differences in organizational structure according to the nature of the task.

Though, as I have said, they share most of the same problems, a Catholic diocese is organized very differently from an opera company. A modern army is organized very differently from a hospital. But within them these big organizations typically have more than one organizational structure. In the Catholic diocese, for instance, the bishop is the absolute authority in certain areas; a constitutional monarch in others (severely limited, for instance, in his right to discipline his diocesan clergy) and virtually powerless in others—he cannot, for instance, visit a parish in his diocese unless the parish priest invites him to do so.

Yet there are universal principles of organization.

One is surely that organization has to be transparent. People must know and understand the organizational structure they are to work in. This sounds obvious—but it is far too often violated in most institutions, even in the military.

It took something like 20 years, for example, for the U.S. Air Force to really understand who should have the last word as to whether a new aircraft was ready to fly. It turns out that the real boss was the sergeant crew chief, not the colonel who commands the repair crews.

Next: [Multiple organizational structures](#)

## **MULTIPLE ORGANIZATIONAL STRUCTURES**

As I have already mentioned, someone in the organization must have the authority to take command in a crisis. It is also a sound general principle for all kinds of organizations that any member of the organization should have only one "master." There is wisdom in the old proverb of the Roman law that a slave who has three masters is a free man. It is a very old principle of human relations that no one should be put into a conflict of loyalties—and having more than one master creates such a conflict.

That's where the so-called jazz combo teams, so popular now, often go wrong. The engineer member, for example, reports to the team leader, but she also reports to the chief of her specialty function. So with the finance member: He owes loyalty both to the team leader and the organization's overall finance chief.

It is a sound structural principle to have the fewest number of layers, that is, to have an organization that is as "flat" as possible—if only because the first law of information theory tells us that "every relay doubles the noise and cuts the message in half."



One implication of all this is that individuals will have to learn to work at one and the same time in different organizational structures. For one task they'll work in a team. For another task they will have to work in a command-and-control structure. The same individual who is a boss within his or her own organization is a partner in an alliance and even a junior partner in a joint venture.

Think of it this way: The executive of the future will require a toolbox full of organizational structures. He will have to select the right tool for each specific task.

That means he or she will have to learn to use each of the tools and understand which one works best for each task. And when, in the performance of a task, should he or she switch from one kind of organization to another?

This analysis is perhaps most needed for the currently politically correct organization: the team.

It is generally assumed today that there is only one kind of team—the jazz combo—where each participant does his or her own thing but together they make great music. Actually there are at least half a dozen—perhaps a full dozen—of very different teams, each with its own area of application, each with its own limitations and difficulties and each requiring different management.

Here are some examples of teams:

The old-fashioned functional team is the kind that prevails in department stores. The different departments—buyers, displayers, promotion and advertising, selling—do not work together, and none of their members ever does the task of a member of another function, except in a rare crisis.

The advantage of this team—as with a baseball team—is that each member can be trained in a particular strength, as are hitters, pitchers and catchers on a baseball team. And each member can be measured and judged against clear and specific goals. The weaknesses are rigidity, slowness in changing anything and the danger that each group will be focused only on its own function. It will do its job well but pay little attention to the organization's overall performance.

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Another team is exemplified by the way service to customers is now being organized by the world's major manufacturers of heavy equipment, things like Caterpillar's million-dollar drag lines or the even more expensive high-tech medical MRI machinery. The service person assigned to the customer has the ball, in football parlance. The service person can and does call on anyone in the company to help a customer with a particular problem; that expert is then on the service person's team for as long as it takes to fix the problem. Similarly the big multinational banks have organized their work for major

customers like a football team's. The executive in charge of an account, e.g., Exxon or Unilever, is directly responsible for what the client needs or wants. And he or she can recruit anyone in the bank's—and in any of that bank's locations—to help the client.

A final example: The team is the top management of the big German company. Each member typically has one clearly defined area of responsibility in which he (still very rarely a "she") is the boss. That area may be functional—engineering—or geographic—e.g., North America. Normally, the person in charge of such an area does not even consult his colleagues about decisions in the area; he just reports them. But there is a "speaker"—usually elected by the board. He too normally has a specialty area of his own, but in addition he has a vote, especially when there is disagreement in the group. He is somewhat similar to the conductor of a good orchestra—he sets the score. But each player plays his own instrument.

And there are many, many more kinds of teams. We are now only beginning to explore them and to define the strengths and weaknesses of each and where each works or doesn't work.

But unless we work out, and fast, what a given team is suited for, and what a given team is not suited for, teams will become discredited as just another fad.

So executives will have this toolbox full of organizations, some highly specialized. They will need to be able to use each one properly and to think in terms of mixed structures rather than only pure structures.

There are not yet many organizations that can do that. An exception is Merrill Lynch. It has organized its institutional business quite differently from its retail business, even though they are run by the same people.

What in all this is the role of the chief executive? I doubt that anyone would assert that we really know how to organize the top management job, whether in a business, a university, a hospital or even a modern church. We talk incessantly about teams—and every study comes to the conclusion that the top management job, requires a team. But here rhetoric parts entirely from reality, and we practice the most extreme personality cult of supermen chief executives—Bill Gates, Jack Welch, Lou Gerstner, celebrities all.

But how were these people selected and who will succeed them—and by what process? What are the safeguards to assure that the successor will be the best person for the job? People pay little attention to the succession process, though it is, in fact, the ultimate test of good management.

In this respect, a nonbusiness organization has done a much better job: The first conscious attempt to deal with the succession problem was made by the framers of the U.S. Constitution. They figured out for the first time in human history how to assure orderly succession without the killings, poisonings, plots and coups d'état that stained the history of royal successions. While I don't know of any cases of garroting of rivals in corporate successions, neither am I aware of any successful systems to assure successful succession in the corporate or organizational world. The Constitution made sure that there would always be a chief executive officer legitimately selected and waiting in the

wings without being a threat to the incumbent, as were the crown princes of yore. The vice president who succeeds a president who dies in office may not be the best person for the job, but his legitimacy and authority is never in doubt.

Next: [Only one right way?](#)

## **ONLY ONE RIGHT WAY?**

In no other area are the basic traditional assumptions held as firmly—though again subconsciously, as a rule—with respect to people and their management. In no other area are they so totally at odds with reality and so totally counterproductive.

Douglas McGregor's book *The Human Side of Enterprise* (1960) asserted that managements have to choose between two and only two different ways of managing people: "Theory X" and "Theory Y." The first assumes that people don't want to work, so must be coerced and controlled. The second assumes that they really do want to work and require only proper motivation.

McGregor asserted that Theory Y is the only sound one. A little earlier I had said pretty much the same thing in my 1954 book, *The Practice of Management*.

That one way or another people need to be managed remains the prevailing view, but it is wrong. A few years later, Abraham H. Maslow (1908-1970) showed in his *Eupsychian Management* (1962; new edition 1998) why both McGregor and I were dead wrong. He showed conclusively that different people have to be managed differently. Maslow is best known for his theory of the hierarchy of human wants—from filling the belly to self-actualization. But for management, *Eupsychian Management* is his most important book.

I became an immediate convert—Maslow's evidence for his view that different people require different ways of managing is overwhelming. But to this date very few other people have paid much attention.

On this fundamentally wrong assumption that there is only one right way to manage people rest all the other assumptions about people in organizations and their management.

One of these assumptions is that the people who work for an organization are working full time, and dependent on the organization for their livelihood. Another such assumption is that the people who work for an organization are subordinates expected to do what they are assigned to do and not much else.

Seventy years ago, when these assumptions were first formulated, during and at the end of World War I, they conformed closely enough to reality to be considered valid. Today every one of them has become untenable.

A very large and steadily growing minority of the work force are no longer full-time employees. They work for an outsourcing contractor, be it a cleaning service or a data processing outfit. Increasingly, the big car and truck manufacturers build cars from parts made by suppliers, with the result that most of the labor in their product is supplied by

people who do not work directly for the manufacturer. This is certainly true in the computer business.

Other members of an organization's work force may be individual contractors working on a retainer or for a specific contractual period. This is often true of the most knowledgeable and therefore the most valuable people.

Even if employed full time, fewer and fewer people are subordinates—even in fairly low-level jobs. Increasingly they are knowledge workers. Knowledge workers cannot be managed as subordinates; they are associates. They are seniors or juniors but not superiors and subordinates.

This difference is more than cosmetic. Once beyond the apprentice stage, knowledge workers must know more about their job than their boss does—or what good are they? The very definition of a knowledge worker is one who knows more about his or her job than anybody else in the organization.

For example, the engineer servicing a customer does not know more about the product than the engineering manager does. But she knows more about the customer—and that may be more important than product knowledge. The meteorologist on an air base is vastly inferior in rank to the air base commander. But he is of no use unless he knows infinitely more about weather forecasting than the air base commander does. The mechanic servicing an airliner knows far more about the technical condition of the plane than the airport manager of the airline to whom he reports, and so on.

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An executive, therefore, is not just being polite when he or she refers to an employee as an "associate." The executive is simply recognizing reality.

A regimental commander in the army, only a few decades ago, had worked his way through all the jobs occupied now by his subordinates: platoon commander, company commander, battalion commander. The only difference in these respective jobs was in the number of people each commanded; the work they did was exactly the same.

No longer. Except for a very brief period early in their careers, many of today's senior military officers have spent little time commanding troops. Their main experience more likely lies in administration, logistics or even research.

Similarly, the vice president of marketing may have come up the sales route and know a great deal about selling. But he or she knows little about market research, pricing, packaging, service, sales forecasting. The marketing vice president therefore cannot possibly tell the experts in the marketing department what they should be doing. In that sense, they are associates, not subordinates. The same is true for the hospital

administrator or the hospital's medical director with respect to the trained knowledge workers in the clinical laboratory or in physical therapy.

Their relationship, in other words, is far more like that between the conductor of an orchestra and the people who play the instruments. The conductor may not even know how to play a violin, yet the success of his conducting depends upon the quality of his associates. And just as an orchestra can sabotage even the ablest conductor—especially even the most autocratic one—a knowledge organization can easily sabotage even the ablest, especially the most autocratic, superior.

What this means is that even full-time employees have to be managed as if they were volunteers. In this the typical corporation can learn a lot from the Salvation Army or the Catholic church.

Like volunteers who work for the church and for the army, knowledge workers own their means of production, which is their knowledge. Their means of production are theirs, unlike the machinery, the buildings, the raw materials that industrial workers require to do their jobs.

Furthermore, we have known for 50 years that money alone does not motivate employees to perform much more than it motivates volunteers. Yes, dissatisfaction with money grossly demotivates. Satisfaction with money is, however, mainly a "hygiene factor," as Frederick Herzberg called it all of 40 years ago in his 1959 book, *The Motivation to Work*.

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**"What do we want?" One begins with the question, "What does the other party want? What are its values? What are its goals? What does it consider results?"**

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What motivates—especially knowledge workers—is what motivates volunteers. Volunteers, we know, have to get more satisfaction from their work than paid employees precisely because they do not get a paycheck. They need, above all, challenge. They need to know the organization's mission and to believe in it. They need continuous training. They need to see results.

Implicit in this is that employees have to be managed as associates, partners—and not in name only. The definition of a partnership is that all partners are equal. It is also the definition of a partnership that partners cannot be ordered. They have to be persuaded. Increasingly, therefore, the management of people is a marketing job. And in marketing one does not begin with the question, "What do we want?" One begins with the question, "What does the other party want? What are its values? What are its goals? What does it consider results?"

And this is neither Theory X nor Theory Y nor any other specific theory of managing people. It goes beyond this and involves aligning the employees' goals with those of the organization—and vice versa.

Managing people will become increasingly crucial in developed countries like the U.S. For the only competitive advantage developed countries can still hope to have is the productivity of their knowledge workers. The productivity of the knowledge worker is still abysmally low. It has probably not improved in the past 100 or even 200 years—for the simple reason that nobody has worked at improving the productivity. All our work on productivity has been on the productivity of the manual worker.

This will require, above all, very much changed assumptions about what constitutes management. One does not "manage" people, as previously assumed. One leads them. The way one maximizes their performance is by capitalizing on their strengths and their knowledge rather than trying to force them into molds.

Next: [The erasing of technological boundaries](#)

## **THE ERASING OF TECHNOLOGICAL BOUNDARIES**

Back in the early days of the industrial revolution when the textile industry first developed out of what had been cottage industries, it was assumed—and with complete validity—that the textile industry had its own unique technology. The same was true in respect to coal mining, and the other industries that arose in the late 18th and the first half of the 19th centuries. These technologies did not much overlap.

The German Werner von Siemens (1816-1892) built one of the first large-scale industrial organizations by understanding it. To gain an edge in his industry's technology, in 1869 he hired the first university-trained scientist to start a modern research lab.

Out of research labs grew the German electrical and chemical industries, which assumed worldwide leadership because they developed the best technology. Out of this understanding about industry—specific research—grew all the other major leading companies in the world besides chemicals: automobiles, the telephone and later pharmaceuticals and computers.

In the 19th century and throughout the first half of the 20th, it could be taken for granted that technologies outside one's own industry had minimal impact on that industry. Know your own technology and you prospered. There was no need for steel technicians to pay a lot of attention to what was happening in aeronautics, say, or in printing.

This industry specificity was the foundation of what was probably the most successful of all the great research labs of the last hundred years, Bell Labs. Founded in the early 1920s as part of AT&T, Bell Labs until the late 1960s produced practically every new piece of knowledge and every new technology the telephone industry needed.

But that exclusive attention to its own industry was to cost Bell Labs—and its parent—dearly. Bell Labs' greatest scientific achievement was the transistor. The main uses of the transistor were outside of the telephone system, and the labs' management had little interest, in or knowledge of, what was going on outside their field. That was an area of no interest to AT&T. As a result, Bell Labs' great invention was sold to all comers for the paltry sum of \$25,000. That Sony and Intel and Compaq are great companies today is largely due to Bell's myopia, for they and hundreds of other successful outfits cashed in on the transistor.

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**Today if you want to survive you've got to forget old Siemens' insight. Now the assumption to start with is that the technologies likely to have the greatest impact on a company and its industry are technologies outside of its own field.**

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Bell had simply failed to see that the world had changed and the technological walls between industries had fallen. The best example of that is of course the pharmaceutical industry, which increasingly has come to depend on outside technologies: genetics, for instance; microbiology; molecular biology; medical electronics and so on.

So has the automobile industry, increasingly dependent on electronics and on the computer. The steel industry increasingly has become dependent on material science, of which the steel companies are mostly ignorant.

Today if you want to survive you've got to forget old Siemens' insight. Now the assumption to start with is that the technologies likely to have the greatest impact on a company and its industry are technologies outside of its own field.

Thus the things that revolutionized the telephone system—such as digital switching or the fiber-optic cable—did not come out of Bell Labs. They came out of technologies that had nothing to do with telephony. Technologies, unlike the 19th century technologies, no longer run on parallel but separate tracks. They constantly crisscross.

As they crisscross, the walls that neatly defined industries have come tumbling down. Where once companies competed *within* an industry, today industries compete *with* industries. Steel competes not only with aluminum but with the plastics produced by oil and chemical companies. Computers began as an engineering tool and later as a means of storing data but are today as much a part of the communications business as AT&T is.

The same is happening in services. When someone needed credit in the past, he or she went hat in hand to a commercial bank. If you wanted to transport and deliver written and printed communications, you called on the U.S. Postal Service. There were two ways of getting fed: cooking for oneself at home or going out to a restaurant.

All those "natural" monopolies have faded away.

But the American regulation of business still rests on the assumption that a unique technology pertains to every industry and that every end-use is supplied by a specific and unique product or service. This is the assumption on which antitrust was based. And to this day antitrust concerns itself with the domination of the market in glass bottles even though the glass bottles themselves must compete with cans, plastic and cardboard containers.

As late as the mid-twenties the U.S. Supreme Court decided that there were two, and only two, mutually exclusive and noncompetitive ways for telecommunication—the spoken word by telephone and the written word by telegraph.

Only after World War II did it become clear that end-uses are not uniquely tied to a certain product or service. It began with plastics invading the turfs that had belonged to steel and glass. We have finally come to realize that the *want* is unique, but the *means* to satisfy it is varied. The business management that forgets that is not long for this world.

Until the late 1920s, news was basically the monopoly of the newspaper—an 18th-century invention that saw its biggest growth in the early years of the 20th century with universal literacy and fast printing presses. Today the want for news is satisfied by TV, radio and the Internet, as well as by ink on paper. While the *Wall Street Journal* easily dominates the market for daily delivering business news in printed form, no one could possibly say that it has a monopoly on business news.

The U.S. Glass-Steagall Act of the Depression years attempted to prevent commercial banks from doing business in the investment market and to keep investment bankers out of commercial lending. A paradoxical result was that it achieved the opposite. It delivered large-scale commercial lenders to the investment bankers. By a quirk of American law (a Supreme Court decision in the 1920s), "commercial paper" (the American equivalent of the European bill of exchange) was classified as a "security." Packaging large corporate loans into commercial paper, the investment bankers swept the field.

Now the fastest growing source of commercial credit is neither the commercial bank nor the investment bank. It is the credit card. A still fairly small but rapidly growing number of credit card customers have multiple credit cards—some as many as 25 to 30. They use these cards to obtain and to maintain a level of credit far beyond their creditworthiness.

The fact that the interest rate is very high does not seem to bother them, since they do not have any intention of paying off these loans. They regard their minimum monthly payments as the cost of maintaining a sizable credit they could not obtain by other means. The credit card has become what the economists call Money One (M1), that is, what used to be called legal tender. Nobody knows how big this new form of money has become—but it clearly is a new form of money.

In the knowledge age even basic economics is turned on its head. The new basic resource, information, differs radically from all other commodities in that it does not stand under the scarcity theorem. On the contrary, it stands under an abundance theorem. If I sell a thing, e.g., a book, I no longer have the book. If I impart information I still have it and can sell it again and again. What this means for economics is well beyond the scope of this paper—though it is clear that it will force us radically to revise basic economic theory.

But economics aside, managements had better understand what this means to them. Information does not pertain to any specific industry or business. Information also does not have any one end-use nor does any one end-use require a particular kind of information

One implication of this is that noncustomers are as important as customers, if not more important: because they are potential customers. There are very few institutions which



supply as large a portion of a market as 30%. In other words, there are very few institutions where the noncustomers do not amount to at least 70% of the potential market. And yet very few institutions know anything about the noncustomers—very few of them even know that they exist, let alone know who they are. And even fewer know why they are not customers. Yet it is with the noncustomers that changes always start.

The rapid decline of the American department store in the 1970s and 1980s was not caused by their customers deserting them. The 30% of American housewives who were their customers remained loyal, but a new breed of educated working woman did not adopt the department store habit. She didn't have the time. Since she was not a customer, the department stores paid little attention to her. By the time she became the biggest part of the affluent middle class, it was too late for the department store to win her loyalty. Instead, by catering to its regular customers, these retailers ended up catering to a dying breed.

All our experience tells us that the customer never buys what the supplier sells. Value to the customer is always something fundamentally different from what is value or quality to the supplier. This applies as much to a business as it applies to a university or to a hospital.

Consider the pastoral mega churches that have been growing so very fast in the U.S. since 1980 and are surely the most important social phenomenon in American society in the last 30 years. There are now some 20,000 of them, and while traditional denominations have steadily declined, the mega churches have exploded. They have done so because they asked, "What is value?" to a nonchurchgoer and came up with answers the older churches had neglected. They have found that value to the consumer of church services is very different from what churches traditionally were supplying. The greatest value to the thousands who now throng the mega churches—both weekdays and Sundays—is a spiritual experience rather than a ritual.

Finally management will have to learn that an understanding of market begins with understanding how consumers distribute disposable income—something economists have been saying for a hundred years.

When television first came in the early 1950s, Japan's leading electronics executive said (in a speech in New York in 1952) that "Japan would not have television for many, many years; the Japanese simply do not have the money to buy television sets." Two years later television penetration in Japan was almost as high as it was in the U.S.

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Five years later every Japanese dwelling, no matter how humble, had a television antenna—the fact that they did not have spare income did not stop the Japanese from buying TVs. For to them this was not just another product. They simply moved more and

more of their disposable income to TV because it gave them access to a world from which they had been isolated for centuries. It was not a product but a whole new way of life.

The fax machine was invented in the U.S.—to this day all makers of fax machines pay a royalty to the original American inventor. Yet Japanese companies dominate the manufacture. U.S. manufacturers missed out because they failed to understand what the advent of TV taught the Japanese. The Americans did a lot of market research, all of which showed that people wouldn't pay the high cost of the original fax machines just to save on postage stamps. Remembering that TV experience, the Japanese understood that consumers have almost infinite willingness to shift disposable income into telecommunications, even though that means skimping somewhere else. They introduced the fax machine—and few things in economic history have been accepted so fast and so universally.

The moral is that neither technology nor end-use are foundations for management policy. The foundations must be customer values—in the above case fascination with and preference for fast fax over slow postal service—rather than on mere function.

Next: [The end of command an](#)

## **THE END OF COMMAND AND CONTROL**

Management, both in theory and in practice, deals with the legal entity, the individual enterprise, be it business corporation, hospital, university or charity. The traditional concept of management is based on command and control, and command and control are legally defined. The chief executive of a business, the bishop of a diocese, the administrator of a hospital have command-and-control authority within the legal confines of their institution but not outside it. The chairman of General Motors can tell hundreds of thousands of people what to do. He cannot tell anyone outside of GM what to do.

Almost a hundred years ago it first became clear that the legal definition was not adequate to manage a major enterprise. To obtain maximum yield at minimum cost, management needed to organize the economic process throughout the entire chain of production. It needed to exercise authority beyond the legal confines of its own organization. The Japanese are usually credited with the invention of *keiretsu*, the management concept in which the suppliers to an enterprise are tied together with their main customer for planning, product development, cost control and so on. Thus while the management of Toyota may have no legal authority over a supplier of bumpers, the managements work closely to mesh together production, cost control and research.

But actually *keiretsu* is much older and an American invention. It goes back to around 1910 and to the man who first saw the potential of the automobile to become a major industry: William C. Durant (1861-1947). It was Durant who created General Motors by buying up small, successful automobile manufacturers such as Buick and merging them into one big automobile company.

A few years later Durant realized that he needed to bring the main suppliers into his corporation. He began to buy up, and merge into General Motors, one parts-and-

accessories maker after the other, finishing in 1920 by buying Fisher Body, the country's largest manufacturer of automobile bodies.

With this purchase General Motors had come to own the manufacturers of 70% of everything that went into its automobiles—and had become by far the world's most integrated large business. It was this prototype *keiretsu* that gave General Motors the decisive advantage, in both cost and speed.

Within a few years Durant's insight made GM the world's largest and most profitable manufacturing company and the unchallenged leader in an exceedingly competitive American automobile market. For 20-odd years General Motors enjoyed a 30% cost advantage over all its competitors, including Ford and Chrysler.

But the Durant *keiretsu* involved bringing the suppliers within GM's legal framework, its command-and-control zone. Durant had carefully planned to ensure the competitiveness of the GM-owned accessory suppliers. Each of them (excepting only Fisher Body) was required to sell 50% of its output outside of GM, that is, to competing automobile manufacturers, like Packard and Studebaker and Nash.

With no guaranteed market for half their output, the GM divisions had to keep on their toes in costs and quality. But after World War II the competing automobile manufacturers disappeared—and with them the check on the competitiveness of GM's wholly owned accessory divisions. Also, with the unionization of the automobile industry in 1936-37, the high labor costs of automobile assembly plants were imposed on General Motors' accessory divisions, putting them at a cost disadvantage over nonunionized independent suppliers.

Durant's *keiretsu* thus turned from being a tremendous advantage into becoming a terrible albatross. Durant's mistake was to bring his supplier-partners into his command-and-control orbit.

The builder of the next American *keiretsu*, Sears, Roebuck, avoided this mistake. As America's largest retailer, especially of appliances and hardware, Sears realized the necessity to bring together into one group its main suppliers, to make possible joint planning, development, design and cost control. But instead of buying these suppliers, Sears bought small minority stakes in them—more as a token of its commitment than as an investment—and otherwise based the relationship on contract.

The next *keiretsu* builder—and probably the most successful one so far—was Marks & Spencer in England, which, beginning in the early 1930s, integrated practically all its suppliers into its own management system but through contracts rather than through ownership.

It is the Marks & Spencer model that the Japanese copied quite consciously and very successfully in the 1960s.

The *keiretsu*, whether Japanese, British or American, is based on power. Sears, Roebuck or Marks & Spencer or Toyota has overwhelming economic power. The *keiretsu* is not a partnership of equals. Increasingly, however, the economic chain brings together genuine

partners. This is true of the partnership between a pharmaceutical company and the biology faculty of a major research university. This is true of the joint ventures through which American industry got into Japan after World War II.

Today even a tiny company can become a genuine partner of a bigger one and not merely a dependent of it. Take the partnerships between chemical and pharmaceutical companies and companies in genetics, molecular biology, or medical electronics.

These companies in the new technologies may be quite small—and very often are—and badly in need of capital, but they own independent technology and can easily stand up to their bigger partner. They are the senior partners when it comes to technology. They, rather than the much bigger pharmaceutical or chemical company, have a choice with whom to ally themselves.

The same is largely true in information technology, and also in finance. When these companies partner, the bigger one does not necessarily bring the smaller one under its command and control.

What is needed, therefore, is a redefinition of the scope of management. Management has to encompass the entire process. For business this means the entire economic process.

Where we have gone farthest in trying to build management of the entire process is in American health care. The health maintenance organization is an attempt—a first and so far very tentative, and none too successful attempt—to bring the entire process of health care delivery under partnership management. It doesn't "own" the doctors. It doesn't "own" the hospital or clinics. But it oversees them as elements in providing health care on a large scale.

And what the HMO is attempting to do in health care delivery will have to be done in many other areas (including, I would guess, education); above all, in business.

The HMO example shows that so far we do not really know how to do the job right. The HMO has been attempting to base the integration of health care management on cost—that is, managing the system to minimize its costs rather than to maximize health care. To be successfully integrated, the management of health care delivery will surely have to be based on health care rather than on finance.

But what both *keiretsu* and HMO's have taught us is that management in the future will have to be operational in its scope and not merely legal

Next: [Taking the national out](#)

## **TAKING THE NATIONAL OUT OF MULTINATIONAL**

It is still generally assumed in the discipline of management—and very largely still taken for granted in the practice of management—that national boundaries still define the environment in which business operates. This assumption underlies even the traditional "multinational." Multinational is hardly new. As large a share of the world's production of manufactured goods and provision of financial services was multinational before World War I as it is today. In 1913 the leading company in its industry, whether in

manufacturing or in finance, derived as large a share of its sales from selling outside its own country as it did by selling inside its own country.

What has changed in the real world, if not in the assumptions under which management operates, is that these political boundaries are no longer relevant.

Let's examine the older multinational. Insofar as it produced outside of its own national boundaries, it produced within the national boundaries of another country. It simply owned a company in another country.

For example, the largest supplier of war materiel to the Italian Army during World War I was a young, rapidly growing company called Fiat in Turin. Fiat made the automobiles and trucks the Italian Army required. The largest supplier of war materiel to the Austro-Hungarian Army in World War I was also a company called Fiat—in Vienna. It supplied all the automobiles and trucks to the Austro-Hungarian Army. Though a wholly-owned subsidiary of the Italian company, the Austrian Fiat was a replica of Fiat/Italy though several times bigger. Its designs came from Turin. Everything else was made or bought in Austria. All products were sold in Austria. And every employee up to and including the chief executive officer was an Austrian. When World War I came and Austria and Italy became enemies, all Austrian Fiat had to do was to change its bank account. Otherwise it kept on working as it had all along. It was actually a separate company.

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**Engines may be made in one country, bodies in another, electronics in another. Today the cars themselves, not just the company, are multinational.**

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Similarly, the largest life insurance companies in South America before 1913 were wholly owned subsidiaries of European companies, e.g., two Italian-speaking Austrian ones, headquartered in Trieste. The Brazilian subsidiaries of these companies—each larger than the parent company—were totally integrated businesses, doing in Brazil everything an insurance company has to do, from selling policies to paying death claims to investing. They were national companies owned overseas.

Multinationals are no longer organized that way. Until recently, General Motors' two European subsidiaries, Opel in Germany and Vauxhall in the U.K., were separate companies. Now GM has one European company, designing, producing and selling in all of Europe and run out of one European headquarters. GM-Europe also produces in South America and Asia—and also sells in the U.S. In turn, General Motors U.S. increasingly designs and produces for GM-Europe and GM-Brazil and so on.

Engines may be made in one country, bodies in another, electronics in another. Today the cars themselves, not just the company, are multinational. The worldwide insurance companies—the foremost of them today a German one, Allianz—are increasingly moving major activities, such as settling claims and, above all, investment, into central facilities that do the work for all the group's businesses, wherever they are.

Post-World War II industries such as pharmaceuticals and information are increasingly not even organized in domestic and international units as GM and Allianz still are. They are run as a worldwide system in which individual tasks—research, design, engineering, development, testing and increasingly manufacturing and marketing—are each organized transnationally.

One large pharmaceutical company has seven labs in seven different countries, each focusing on one major area (e.g., antibiotics) but all run as one research department and all reporting to the same research director in headquarters. The same company has manufacturing plants in 11 countries, each highly specialized and producing one or two major product groups for worldwide distribution and sale. It has one medical director who decides in which of 5 or 6 countries a new drug is to be tested. Only the managing of the company's foreign exchange exposure is totally centralized.

This new reality does cause serious problems, of course. What is the nationality of a transnational? Increasingly this is becoming a problem for universities, too, as so many of them, especially American ones, go into partnership with universities in Europe and Asia or establish branches there. In turn, European and Asian (especially Japanese) universities establish branches in the U.S. or go into partnership with American universities to work together in a number of fields.

There are very real and new problems with respect to the treatment of investments and taxes and property. In the case of war, these would create tremendous problems in respect to the treatment of foreign institutions. What would you do if your research lab is in one side of the war but the plant producing that product line is in another?

For management, too, the new realities pose problems that so far have not been resolved. Increasingly, companies—and by no means only large ones—organize themselves by businesses rather than by geography. What are the relationships among these different units? How do they work together? What is the jurisdiction of each? Who resolves conflicts between them? All these are questions to which, so far, we have no real answers.

But we do know the new reality: Management and national boundaries are no longer congruent. The scope of management can no longer be politically defined. National boundaries will continue to be important but as restraints on the practice of management, not in defining the practice.

Next: [Bringing the world into the organization](#)

## **BRINGING THE WORLD INTO THE ORGANIZATION**

All the traditional assumptions I have examined here rest on an even bigger assumption: that the domain of management is within the company. That management's principal job is to run the organization.

That, too, is no longer true. It leads to an otherwise incomprehensible distinction between management and entrepreneurship. It artificially divides the functions of managing and innovating. This division makes no sense whatever. An enterprise, whether a business or

any other institution, that does not innovate and does not engage in entrepreneurship will not long survive.

That is true even of the oldest institution in the world, the Roman Catholic Church. It is usually considered the most conservative one—and prides itself on not being given to rapid changes. Yet, it, too, has frequently innovated and changed with the world. It produced the Benedictines in the 5th century, when the Barbarians overran the Roman Empire; the Franciscans and Dominicans, 700 years later, when cities reemerged in the Middle Ages; the Jesuits in the 16th century, as an answer to the Protestant Reformation, and so on.

Protestantism innovates, too. The great church historian Richard Niebuhr (1894-1962) showed in several books that any major change in society leads to the emergence of new Protestant denominations.

It is still happening. The emergence of the Knowledge Society today has led to the explosive rise of the new, large nondenominational, pastoral "megachurches." It has also led to an explosion in Pentecostalism, attracting largely the less educated and less upwardly mobile members of modern society while the megachurches have tended to attract knowledge workers.

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What all this means for management is perfectly clear: The forces that most influence organizations come from outside the organization, not from within. The new Catholic orders grew not because the organization required them but because events in society required them. The Methodist movement in Protestantism exploded almost spontaneously in the late 18th century, not for reasons of theology but as a response to social depravity among the poorer classes in Britain and the U.S.

In short, these religions survived because they innovated in response to social change. It should have been obvious from the beginning that management and entrepreneurship are only two different dimensions of the same task. An entrepreneur who doesn't learn how to manage will not last long. A management that does not learn to innovate will not last long.

Every institution—and not only business—must build into its day-to-day management four entrepreneurial activities that run in parallel. One is the organized abandonment of products, services, processes, markets, distribution channels and so on that are no longer an optimal allocation of resources. This is the first entrepreneurial discipline in any given situation.

Then any institution must organize for systematic, continuing improvement (what the Japanese call *kaizen*).

Then it has to organize for systematic and continuous exploitation, especially of its successes. It has to build a different tomorrow on a proven today.

And, finally, it has to organize systematic innovation, that is, to create the different tomorrow that makes obsolete and, to a large extent, replaces even the most successful products of today in any organization.

I emphasize that these disciplines are not just desirable, they are three conditions for survival today.

These entrepreneurial tasks differ from the more conventional management roles of allocating present-day resources to present-day demands. These entrepreneurial activities start with the outside and are focused on the outside.

But the tools we originally fashioned to bring the outside to the inside have all been penetrated by the inside focus of management. They have turned into tools to enable management to ignore the outside. Even worse, they are used to make management believe it can manipulate the outside and turn it to the organization's purpose.

Take marketing. The term was coined 50 years ago to emphasize that the purpose and results of a business lie entirely outside of itself. Marketing teaches that organized efforts are needed to bring an understanding of the outside, of society, economy and customer, to the inside of the organization and to make it the foundation for strategy and policy.

Yet marketing has rarely performed that grand task. Instead it has become a tool to support selling. It does not start out with "who is the customer?" but "what do we want to sell?" It is aimed at getting people to buy the things that you want to make. That's getting things backward. American industry lost the fax machine business that way. The question should be "how can I make things the customers want to buy."

Executives of any large organization—whether business enterprise, Roman Catholic diocese, university, health care institution, government agency—are woefully ignorant of the outside, as everybody knows who has worked with decisions in a large organization. These executives must spend too much of their time and energy managing inwardly rather than managing outwardly.

The inward focus of management has been aggravated rather than alleviated in the last decades by the rise of information technology. Information technology so far may well have done serious damage to management because it is so good at getting additional information of the wrong kind. Based upon the 700-year-old accounting system designed to record and report inside data, information technology produces more data about the inside. It produces practically no information about anything that goes on outside of the enterprise. Practically every conference on information deals exclusively with how to get more inside data. I have yet to hear of one that even raises the question: "What outside data do we need, and how do we get them?"

Management does not need more information about what is happening inside. It needs more information on what is happening outside.



So far no one has figured out how to get meaningful outside data in any systematic form. When it comes to outside data, we are still very largely in the anecdotal stage. It can be predicted that the main challenge to information technology in the next 30 years will be to organize the systematic supply of meaningful outside information.

It is understandable that management began as a concern for the inside. When the first large, modern organizations first arose—around 1870—the first and by far the most visible need was to organize the enterprise itself. Nobody had ever done it before on that scale. But now we know how to do that. Growth and survival both now depend on getting the organization in touch with the outside world. Management has become an external, not an internal, task. For results take place outside the organization. Inside, there are only costs.

Next: [The role of an outward-directed management](#)

## **THE ROLE OF AN OUTWARD-DIRECTED MANAGEMENT**

The first task of management is to define what results are in the enterprise that is in its keeping. This, as anyone can testify who has ever engaged in it, is one of the most difficult, one of the most controversial, but also one of the most important questions. It is therefore the specific function of management to organize the resources of the organization for results outside the organization.

Therefore the new paradigm on which management, both as a discipline and as a practice, must be based is that management must define the results it expects to attain and then must organize the resources of the institution to attain these results.

Kyocera, the Japanese company that has become the world's leader in the creation and development of new inorganic materials, defines results as leadership in innovation. But its closest competitor worldwide, Germany's Metallgesellschaft, defines results primarily in terms of market standing. Both are rational definitions, but they produce very different strategies.

The paradigm holds for universities, churches, charities and governments, as well as business enterprises.

Next: [Why management matters](#)

## **WHY MANAGEMENT MATTERS**

I have raised a great many questions in this essay, but I have intentionally avoided trying to give answers. But underlying these questions is a simple and very obvious insight: That the center of a modern society, economy and community is not technology. It is not information. It is not productivity. The center of modern society is the managed institution. The managed institution is society's way of getting things done these days. And management is the specific tool, the specific function, the specific instrument, to make institutions capable of producing results.

The institution, in short, does not simply exist within and react to society. It exists to produce results on and in society.