

Crash Course in Management for the Entrepreneur

Upon completion of this twelve-hour series, the budding entrepreneur will master the use of management tools through which they will execute action which brings about change, and do so at a minimum risk. Through these sessions the student will discover and learn to use the tools ALL successful ventures use to achieve their objectives.

Note to facilitator: It is imperative during the introduction of this session that it be made clear that 90% of the tools used by successful enterprises are as simple as making lists on the back of an envelope. Compaq is known to have the lion's share of the PC market. The company was started based on a sketch drawn on a paper place-mat in a restaurant. The sketch became the focus upon which the four founders launched a multi-billion dollar business. Coca Cola burst into the world's market because somebody simply said "Bottle it" - and using nothing but existing technology did just that. Sam Walton grew a 2000+ store chain based on one very simple driving force: Give the customer true value and treat them like friends.

This series on Management is designed specifically for the person with nobody to manage! The toughest job for any new venture is self-management. But with the right tools, when they wake at 2 in the morning in a cold sweat fully aware of the awesome challenge ahead, knowing they have the right tools will give them the courage and energy to carry out their mission. And no person should venture into entrepreneurship without a solid commitment to achieve their self imposed mission.

The tools are simple: Make lists, do a Pareto, find a solution, implement it, track it, tweak it, discipline the change. Make lists, do a Pareto..... The cycle applies to virtually every part of the business from locating something to sell

or inventing something new, through marketing, sales, collections, financing, growth, success and profitability. This portion of the IETP curricula creates a toolbox from which the leaders of the new venture can use as they tackle every challenge.

For example, there will be a large portion of training focused on marketing. The participant (student) will learn how to design and mail a broadside to their targeted market segment. Then they will take action on the response BUT AT THE SAME TIME they will perform the list/Pareto/project cycle on the PROCESS in order to get the most from the next salvo. Another example, they have trained a person in telemarketing. Twenty calls yield one lead, ten leads yield one sale. By applying the list/Pareto/project cycle to this process they should improve yields by 10% each and every time the cycle is applied to the process. This process of continuous improvement in everything they do is the key to success. It is the one thing that separates success from routine failure.

Be prepared for glazed eyes as you explain this obviously simple process because in their mind's eye they are asking themselves "Did I sign up for this class to hear such obvious bull? -- Am I back in kindergarten? -- What I want is the good stuff, the hard stuff I need to make a killing!"

Nobody believes, at first, that there is an art and huge payback in making lists.¹ Mention "Make lists" and in their mind's eye they see a list of things to buy in the grocery store. Their mind-set prevents them from seeing beyond their experience.

It is critical that you as facilitator illustrate the paralyzing power of experience. It has been proven that the human mind has two gate-keepers screening incoming information¹. If the incoming information does not fit within an established cubby-hole the information is rejected. If the incoming

¹ San Diego Union Tribune, Monday, November 28, 1994 -- UCSD scientist outlines brain's process of denial. By David Graham, Staff Writer: The psychoanalyst Sigmund Freud recognized long ago a powerful ability of the mind: If a truth or event is too confusing, or even merely unpleasant, a person may try to block it out. The mind will deny the fact or rationalize another explanation for it. -- Now, a UCSD neuroscientist (Vilayanur Ramachandran) believes he has located where in the brain these powerful phenomena occur and how the brain weighs the facts at hand. The work apparently shows a biological basis for the concepts of denial and rationalization that Freud developed to describe aspects of human behavior. (more)

information appears to fit a cubby-hole, it will be sent in that direction without further analysis and if there is discord the information will simply dissipate into thin air. A list is something we take to the supermarket. A high-powered facilitator now says a list is key to my success. Bull!

What you must do is activate the second gate-keeper which typically lies dormant until some new information tries to gain entry with more force. Such as hitting a mule over the head to get their attention. This is known today as Paradigm Paralysis.ⁱⁱ

Look deep within your experience and make a short list of examples of how the obvious was not the obvious and had you paid attention, you would have . . . whatever. Somehow you must make the class aware that although a lot of the material in this course appears to be so simple and obvious, it is, but from an angle they have not seen or worked before. We must make the familiar unfamiliar and the unfamiliar familiar as we proceed through this material. One example used quite often by facilitators is to ask the participants to describe a chair. Then turn the chair upside-down and ask the same question. The answers will be different because of the different point of view. This is what we must do in describing the tools we will be teaching. Whenever you see a glazed eye, stop and ask what they think you mean from what you just said.

Entrepreneurs are masters of change -- they are the people who recognize that something here can be used there and perhaps in a different way. Or they invent something that did not exist before and put it before the marketplace. This is radical change. The most drastic change imaginable. Horses gave way very reluctantly to the automobile - it took years and laws were passed to protect the horse. Television did not blossom from one day to the next. Salesmen were in the field knocking on doors offering all kinds of inducements to households "Be the first on the block to own a television set - we'll even take your picture and put you on the front page of the town newspaper!" Hard to believe today, but it took a lot of energy to mobilize a nation into giving up their radios, garage workshops and reading to accept television.

Few ideas are accepted quickly. Yet the entrepreneur must find a better use for something already on the market, put it to some other 'new' use, find a niche where buyers will be willing to pay for it - or they must invent something new and prove

to a doubting marketplace that they will benefit from it's use -- be it an idea, a service or a product.

Entrepreneurs don't do this alone. They start alone - but if they can't sell their idea to enough people to help build the business and enough people who will buy whatever it is they are selling - they can't get to first base. The young Turks in Geneva who invented the quartz driven time-piece failed miserably in selling their idea and put millions of Swiss on unemployment. The trick, then, is to be innovative and to sell their personality and dream to others. This is salesmanship at it's best and it is the key element to building the American dream.

These are learnable tools that can help the transition from every-day person to entrepreneur. Tools to get started, and tools to continue on an upward curve and tools to learn to master success - to leverage success into other successes. Without leveraging each success to make another happen, the entrepreneur will fall from the cliff and hit the rocks with earth-shattering doom. Thus, entrepreneurship is a cycle. Like breathing in, and breathing out.

Every day starts with a question: "How can I serve more people, better?" Never with this question: "How can I make more money." Even though money is used as a measuring stick.

For every action during the day the entrepreneur must ask themselves: "If I take this action, will it add value to what my customer will receive?" Never: "If I take this action will I benefit at someone else's expense?"

The power behind any business is the dream of the originator of that idea. It's called "The power of the Inventor." Smart business managers know how to discover this power within their employees and capitalize on it. You, as a budding entrepreneur, will discover how to use this power to get others to help you build your future. It's called the Socratic Method and it's one of the tools you will be learning.

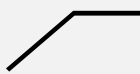
This power of the inventor is the driving force keeping you on target to accomplish your dream -- to execute that change you have seen in your imagination. Change. The never-ending cycle. This power needs to be rekindled from time to time as the entrepreneur struggles against great odds to attain a worthwhile goal - alone - without the kind of peer support they may have had in previous employment. A key tool here will be elements from Tony Robin's Personal Power program, Napoleon Hill and Dale Carnegie.

Your business will run as a merry-go-round mounted on the deck of a huge cargo ship. Each time you go around you have one bit of input into the direction the big ship will take. But the round and round merry-go-round is the daily business of applying the tools you will learn in this course. On the merry-go-round side they are:

- Make lists
- Perform Pareto Analysis
- Define problem/opportunity
- Create solution
- Implement solution through project management
- Monitor objectives against the project
- Make course corrections
- Implement
- Discipline the new change

Start all over again even before you finish the first cycle...

On the selection of the course and destination for the big ship they are:

Vision		These subjects to be covered by other Subject Matter Specialists
Strategic Planning		
Finance (includes taxes, legal and accounting)		
Marketing (includes sales and advertising)		
Technology awareness (includes office automation and the Internet among others)		

Back to the merry-go-round: (my specialty)

Make lists

Even before implementing the first set of ideas, this must be an ongoing thing. The list is probably the single most important tool you have. A Robber Baron of the early 20's is reputed to have paid \$25,000 Dollars to a consultant for these words: "Make lists" Today that would be close to a half a million Dollars

Perform Pareto Analysis

Get the essence from the lists, from the observations, from the problems and opportunities. Synthesize them into chewable bites. How do you eat an elephant? (One bite at a time!)

Lists are like the wine -- the Pareto analysis make the liquor -- the essence

Define problem/opportunity

What change is required to bring about what end result?

Create solution

Could include new product, new process, new office, new ??? Or it could be a simple solution to an existing problem such as fire the non-productive salesperson and hire a better one.

Implement solution through project management

Success in business comes to those who execute action through the sound implementation of Project Management. When learning project management the student will surely feel a kinship with the proverbial Godfathers of Italian origin. A favor for a favor, keen awareness of other people's needs and how to satisfy them in exchange for service to you in your effort. You will learn how to develop instant rapport and gain support for your project through the kind of salesmanship only a true believer can develop.

Monitor objectives against the project

Measurements for virtually everything from the first ad, the first direct mail campaign, the first batch of widgets to be shipped -- EVERYTHING. If it can be measured it can be controlled.

Make course corrections

Like driving a car. Every foot of the way you make slight corrections through the gas pedal and steering wheel. You will learn a dozen tools to help you know when to change course BEFORE you get into trouble.

Implement

Mr. Welsh, CEO of the fabulously successful General Electric said it: "If you have an idea and you keep it locked in your drawer -- never taking it out and putting it to work -- you're a worthless engineer. Go home!" Same goes for almost anything.

Discipline the new change

Once you have gotten it in place make sure all the players keep it in place. If it needs to be changed the knowledge will come from repeating the above cycle. Know it will change - at some time. But in the meantime discipline the process. We will study a bit of Taylor, the father of Industrial Engineering here.

Nobody but a Robber Baron would pay \$25,000 for two words -- "Make lists"-- that are so obvious they are laughable. You will discover that most tools entrepreneurs use are simple, back-of-the-envelope things. So simple, in fact, that most people put them off as not worth the time nor energy to do. After all, to

become wealthy there must be some really heavy duty secrets and techniques one must learn to use or they must have been born with incredible luck. Otherwise everybody would be rich!

Let's put this issue on the front burner right now. Sam Walton, the richest person on earth when he died a few years ago, got his incredible wealth from following exactly this recipe: ***Give the customer what they want at a better price and give them a guaranty.*** While the biggies during the days of Wal-Mart's growth laughed at the upstart - then frowned as he nibbled then chewed chunks from their market could never get it right. They forever laughed at this Arkansas farmboy and never did figure out that their secret really is giving the customer what they want at a better price and give them a guaranty. With over 2,000 stores they are today's paradigm for business success and we can learn a lot from them.

Traditional management tends to stifle change whereas entrepreneurship thrives on change. Traditional management is designed to keep things in place -- to prevent as much change as possible. Therefore, we will not focus much energy on traditional management concepts except to make reference, on occasion, to the key functions assigned to traditional managers:

They get things done through others (*Entrepreneurs start by doing it all*)

They do the following: Planning, organizing, staffing, directing and controlling.

And they do this well when they have a clearly understood Vision and Strategic Plan in place - which is created, uniquely, by the entrepreneur.

So, when the entrepreneur has developed the system, gotten the bugs out of it, and it's working kind of on semi-automatic, it's time to turn it over to a manager and let them run it until it's time to change. And believe me, it will be the managers of these systems that will be the first to offer the greatest resistance to change!

The specific tools are:

Make lists

From customer feedback

market research

ideas from the entrepreneur and from associates

how to generate ideas using the Socratic Method

mental seduction of consultants/professionals

quality circles

focus groups

brainstorming

- research on the net
- Personal Power principles
 - Self management
 - Team-building
 - Rapport
- Implement solution through Project Management
 - salesmanship and personal power
 - responsibility
 - trade future favors for needed resources
 - task definition
 - resource definition/allocation
 - milestones with meaning
 - tracking & monitoring
 - measurements
- ROI
 - Return on Investment NOT according to the Harvard Business School
 - Specific tools for those selling solutions to business
 - Specific tools for those getting into manufacturing or operations
- Perform Pareto Analysis
 - data acquisition methods
 - statistical probabilities
 - the normal curve
 - Taguchi quality loss function -- a key item
- Define problem/opportunity
 - traditional problem solving techniques
 - brainstorming
 - Synectics
 - meditation & hypnosis
 - right-brain exercises
 - neurolinguistics
- Create solution
 - research
 - use of free consultant talent
 - use of databases
 - design of experiments
 - Taylor and industrial engineering
 - the net
- Monitor objectives against the project
 - inventing measurements
 - plotting and charting techniques -- manual and computer
- Make course corrections

communication skills
leadership
reward systems -- penalty systems

Implement

documentation control
change management systems
supervision
rewards/punishments
continuous process improvements during implementation and later

Discipline the new change

Design process control graphics. Shift this activity into traditional management routines and go on to other problem/opportunity.

These tools will teach how to spot opportunities to be of greater service, to overcome fear, to dominate failure and to conquer the consequences of success. Success can be as difficult to handle as failure. Then -- at the height of success, initiate action for yet other changes fully understanding life-cycle physics.

One last comment:

The greatest entrepreneurs of this century are Henry Ford, Sam Walton and Bill Gates. Two of them bootstrapped whole new businesses and one took an old business and refocused it toward total customer satisfaction. These are the opportunities any budding entrepreneur has today. Make something new or sell something old in a new and better way. This manual covers both approaches. For example in talking market research - this can only be done as it was done by Sloan when GMⁱⁱⁱ took off after Ford's market share. Market research for Bill Gates was peering into a crystal ball since there was no market to speak of before Microsoft.

This manual could be thought of as a toolbox where at times you need a hammer and at others a computer. You will understand the tools and through exercises and working your own projects get to know these tools in such a way they will become an integral part of your vocabulary.

ⁱThe origin of lists: Industrialist Charles Schwab hired consultant Ivy Lee more than 50 years ago to uncover universal success secrets. After much research and study, the distinguished Mr.

Lee returned to Mr. Schwab with a two-word solution: "Make lists," he told Mr. Schwab. "And send me a check for what you think it's worth."

Schwab later send him a check for \$25,000 -- about \$600,000 in today's money!

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Abstract: The notion of the shifting paradigm now fascinates corporate executives who face market downturns. Several successful paradigm shifts are discussed, including Chrysler's minivan development and Hewlett-Packard's LaserJet innovation.

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DON'T TRY THIS at home, but consider these two alternative methods for boiling a live frog. If you drop little Freddie into boiling water, he will hop right out, say those familiar with this classic physiological phenomenon. Ah, but if you place him in a pot of cold water and gradually raise the temperature, he will just sit there and boil to death. A pointless animal torture tale, or a crucial parable for business leadership in the Nineties? It's the latter, of course, say dedicated analysts of business paradigms and their shifts.

How a word as obscure and awkward as paradigm has fallen into common usage among executives is difficult to fathom (see box at end of story), but it has become truly the buzzword of the age. And because paradigms are so abstract, they are often explained with the aid of frogs and such. Freddie, you see, failed to adjust to a shifting paradigm; he ignored a crucial, if gradual, change in his environment. Had he recalled his Thomas Paine, he would have

remembered that "a long habit of not thinking a thing wrong gives it the superficial appearance of being right" and perhaps have hopped to safety before coming to a full boil.

So if you and your company are trying harder than ever these days but the water keeps getting hotter, your problem may not be the recession -- or even that crackbrained VP of sales you've been blaming for everything. The constant rusty crunch you hear in the background is probably the shifting of the paradigm. And paradigm shifts are like boats -- you don't want to miss them. History is littered with shift victims: buggy makers who turned up their noses at Henry Ford's smelly exhaust; candlemakers who failed to see the light of Edison's little bulbs; and more recently, Swiss watchmakers who ignored the tickless threat of digital Japanese watches.

To unbuzz this word a bit, a paradigm -- in its business connotation -- is simply the conventional wisdom about how things have always been done and must continue to be done. A paradigm shifter is someone who throws out the rules of the game and institutes radical, not incremental, change -- a leader who foments revolution, not evolution. Typically, paradigm shifters come from outside, or on the fringes of, existing organizations or industries. Their stories are familiar. Ray Kroc, trying to sell milkshake mixers, changed the way the world feeds with his McDonald's restaurants. Ted Turner, trying to turn a buck from UHF television, discovered satellites and changed the way the world gets its news with his CNN. Fred Smith, told by investment bankers and his Yale professors that his package delivery idea was stupid, changed the way the world receives its overnight mail with his Federal Express. Alexander Graham Bell, David Sarnoff, Henry J. Kaiser -- there has always been a fine line between true paradigm shifters and those we call crackpots.

What's interesting these days is that big corporations, which don't have much tolerance for crackpots, now suddenly aspire to grow their own paradigm shifters, or find the ones hiding in their midst. Why? Pure and simple: to survive in today's rapidly changing, unforgiving, globally competitive business environment. "Incrementally fixing the old broken bureaucracy just isn't doing the job these days," says Noel Tichy, the University of Michigan business professor who adapted the boiled frog experiment from the biology lab to management theory. "What's required are quantum ideas for products and services, as well as revolutionary changes in the organization to produce them." Tichy, who has worked extensively with General Electric CEO and ultimate paradigm shifter Jack Welch, adds, "It's not just quantum ideas, but the guts to stick with them. In industry after industry, a lot of frogs are waking up and finding it's too late to jump. Banking is there. Auto has had two chances and may not get a third. And now the computer industry is feeling the heat."

Predictably, paradigm shifting has become a management fad, complete with

books, expensive seminars, videotapes and motivational speakers. But, as Tichy points out, "this isn't just some cute little gimmick. It's difficult, it's painful, and it involves a fundamental shift in the corporation, including power." Consequently, the ugly truth is that real paradigm shifting rarely occurs within traditional corporations. And when it does, individual paradigm shifters -- usually tenacious, highly opinionated, action-oriented types whose specialty is, after all, rocking the corporate boat -- often don't survive the process.

Just ask Hal Sperlich, who had a brilliant but truncated career shifting paradigms in, of all places, the U.S. auto industry. Sperlich was a true "framebreaker" -- as these folks are also called -- at both Ford Motor, where he led development of the original Mustang under Lee Iacocca, and Chrysler, where he fathered the minivan, the front-wheel-drive box on wheels that changed the car-pooling habits of the American housewife. Today, at the prime age of 61, the former Chrysler president works as a consultant, and he offers this warning to would-be innovators in corporate settings: "You're walking a very lonely road. Life in a large corporation is easier if you go with the flow and don't support major change. People who propose things that are different make more conservative people nervous, and the corporate environment just doesn't reward people for challenging the status quo."

Still, he says, "if you have the ability to come up with things that are different, that create a new market, you can really ring the cash register." The minivan did just that; it created and cornered a market the Japanese hadn't considered, and Chrysler still owns roughly half that market. With over two million units sold, the vehicle has been the mainstay of Chrysler profits since the mid-1980s. Says Sperlich: "If we hadn't done minivans, Chrysler would be gone, no question."

But for Sperlich, who first developed the idea while working at Ford, the minivan's creation was a long, frustrating vigil. Like most paradigm shifters, he first defined the mission: to create a vehicle for the housewife that would be more useful than a station wagon but still friendly enough in height, width, and handling to be practical for grocery shopping and car pooling. The breakthrough in design came with the idea of giving the car front-wheel drive, a concept that met stiff resistance all along the way. Unable to sell the minivan at Ford, Sperlich abandoned a 20-year career there and moved to Chrysler, taking his belief in the minivan with him. He met opposition there as well, but two years later Iacocca came over to Chrysler as chairman and quickly backed development of the car. (In 1988, Sperlich took early retirement from Chrysler.)

Sperlich sees his inability to sell the minivan to Ford as symptomatic of a fundamental fallacy in Detroit's product-development paradigm. "They lacked confidence that a market existed, because the product didn't exist," he says.

"The auto industry places great value on historical studies of market segments. Well, we couldn't prove there was a market for the minivan because there was no historical segment to cite." Thus, says Sperlich, in Detroit most product-development dollars are spent on modest improvements to existing products, and most market research money is spent studying what customers like among available products. "In ten years of developing the minivan," he says, "we never once got a letter from a housewife asking us to invent one. To the skeptics, that proved there wasn't a market out there."

As the minivan's checkered history demonstrates, nothing new takes place until top management -- in this case Iacocca -- commits to change. For a real paradigm shift to occur within a corporation, "there has to be divine discontent with the status quo at the very top, and the courage to do something about it," says Ram Charan, a consultant to many FORTUNE 500 corporations and a former Harvard business school faculty member. At the same time, Charan cautions executives to "stop looking to academic management fads for solutions." Instead, he says, "give the customers what they want and need. Get the quality that's required. Achieve continuous improvement in productivity. Make decisions and execute; that's the real name of the game. That will shift the paradigm if it's necessary."

GIVING CUSTOMERS what they need was the single-minded mantra animating Hewlett-Packard engineers in Boise, Idaho, when they set out in early 1983 to develop a desktop laser printer for the office market. Back then, the prevailing paradigm in computer printers was the so-called impact or daisy-wheel printer, which was affordable but disappointing in quality. The cheapest laser printer, used only with mainframe computers, cost more than \$100,000. But HP did exactly what Hal Sperlich talks about: forecast a market it could create by providing a new product consumers were going to want. Says Dick Hackborn, HP's executive VP for desktop computer products: "We realized we had an emerging technology converging with an unmet user need." Astonishingly, by the following year's spring Comdex computer show, HP had introduced its first LaserJet printer for \$3,495 -- a desktop machine that instantly shifted the industry paradigm and at the same time altered HP's own accepted rules of how to do business. The results were hard to challenge: HP seized the top spot in the new desktop laser printing market, where it remains today. It has sold some four million units, and it owns an estimated 70% of U.S. market share and 55% of world share. The experience changed the company.

Before the LaserJet, HP subscribed to its own rigid paradigm. It insisted on developing its own technology for all new products, which were then designed to be used exclusively with other HP equipment, all of which was marketed only by HP's own sales force, which calls directly on businesses. Roger Archibald, one of the original seven engineers assigned to the printer project, believes the Boise location -- HP is headquartered in Palo Alto, California -- was a major plus. "We were away from the systems division and away from the computer

division, and it gave us the freedom to break the rules," he says.

Right away, Hackborn's bunch tossed out HP's disdain for not-invented-here technology. Japan's Canon had, in Hackborn's words, "captured the hill" on the technology for the engines in such printers, and the Boise bunch decided to license it rather than invest a lot of time and money to capture its own hill. So HP designed the electronic formatting components of its printers, using Motorola chips; it had Microsoft and others write the software; and it had Canon assemble some of the final product in Japan. "Some of our guys said 'This isn't real engineering,'" says Archibald, "but we were architecting it and making it a viable product. If we had designed it all ourselves, we would have missed the time to market and it would have cost much more."

Such an approach reflects a larger paradigm shift under way worldwide, says Michael Brimm, a management professor at Insead, the European institute of business administration outside Paris. "Big companies are realizing they can't do it alone anymore," he says, "and not just in product design and engineering."

A second HP rule went out the window when the LaserJet group decided that proprietary standards, which keep one brand of machine from working with another, didn't -- repeat the mantra -- "give the customers what they want." The Boise attitude was that the customer simply wanted the best printer at the best price. "In our first reports we wrote that the printers would be targeted at the HP 150 Personal Computer," recalls Archibald, "and then we added, 'and other non-HP personal computers.' That was a real bombshell." A major battle within the company was required, he says, to unveil the printer connected to an IBM PC in the HP booth at the Comdex show. "It was symbolic," he says. "We wanted to show not only that we were compatible, but that we were going to be the industry standard, the IBM PC of printers. And it happened. Today everybody claims to be LaserJet compatible."

The Boise team's bombshell idea was on the cusp of an industrywide move toward universal standards. "The paradigm is shifting away from information hoarding and toward information sharing," says Roy Smith, a project manager at MCC, the Austin, Texas, technology consortium formed by leading U.S. high-tech companies. Even archrival standard-bearers Apple Computer and IBM are discussing a rapprochement that could lead to limited compatibility.

Having broken most of the rules to get LaserJet to the Comdex introduction -- where it was met with overwhelming enthusiasm -- the Boise bunch wanted to break one more. The LaserJet's creators believed it had to be marketed through dealers such as ComputerLand and JWP Businessland. HP executives insisted that -- at \$3,495 -- the machine was too pricey for the retail market and therefore should remain with the direct sales force. But Hackborn prevailed and the machines were rolled out through dealers. Meanwhile,

Hackborn concentrated on maintaining HP's market lead -- something the company had not always done well after earlier fast starts -- by focusing on rolling out new products in the LaserJet line and making them increasingly cost competitive. "We had a second printer in less than 18 months," he recalls, "and we fortified the hill by pushing costs -- and prices -- down." In less than ten years, the price of a full-feature laser printer has fallen as low as \$1,295.

ASIDE FROM the \$1.5 billion in annual revenue that the LaserJet provides to HP, it also has been an exemplar for development of other new products. "The LaserJet is my example," says Carolyn Ticknor, an HP general manager trying to develop the market leader in networks, those tricky devices that permit office PCs to talk with one another. Hackborn, a 31-year veteran of the company, has become the archetypal paradigm shifter within Hewlett-Packard, and -- from a modest office adjoining a shopping center in Boise -- he now spearheads the injection of the LaserJet's lessons into the rest of the company.

At Hewlett-Packard, breaking the rules worked by bubbling up from Boise and eventually infecting the larger organism. At a company as mammoth as General Electric, however, the rule book had to be thrown out from the very top to effect a paradigm shift, and when Jack Welch became CEO in 1981 he did just that. The superaggressive former hockey team captain took over a reasonably healthy company and mandated a shocking restructuring. Pursuing his "fix, close, or sell it" philosophy, Welch sold off major businesses, such as consumer electronics and small appliances, and sent packing some 100,000 employees. He pursued his vision of a less hierarchical GE, with far fewer middle managers and more power accruing to those who remained. The shift was painful, but productivity and profitability -- and thus global competitiveness -- soared in the Eighties, making Welch a legend and GE's stock a sweetheart of Wall Street.

"People come to me and ask, 'Why was I good enough yesterday but not today?' " says John Trani, the 46-year-old Welch lieutenant who overhauled and runs GE Medical Systems, a \$3 billion high-tech manufacturer situated on a bucolic former dairy farm outside Milwaukee. "It's simple. In 1954, Roger Bannister won world acclaim for breaking the four-minute mile. Today high-schoolers can do that. The standard is always changing, but there's always a top ten and a bottom ten." As a matter of formal policy, Welch demands that all GE's businesses be No. 1 or No. 2 in their industry -- globally.

When Trani went to Milwaukee in 1986, GE Medical was neither. The division was a domestic maker of equipment for X-ray, CT and MRI scanning, and other emerging medical technologies. Its U.S. market share was somewhere above 20%, but 60% of the industry market lay outside the U.S., where GE had negligible presence. Trani gave himself 60 days to analyze the business and formulate a vision that would change the company's unacceptable paradigm: a domestic

player with limited competitiveness in a global industry.

FIRST, says Trani, "half the middle managers went home. They were doing non-value-added work that just didn't have to be done. We had five separate estimates of quarterly sales, and we had a team devoted to negotiating intercompany transfer prices." The cuts helped, but Trani knew he had to go global quickly. So in 1987, GE swapped its consumer electronics business (long ago pushed out of top contention by the Japanese) for the medical systems business of France's Thomson S.A. Earlier, GE had formed a joint venture with its Japanese distributor, Yokogawa Electric Works. Now it could begin to play within Welch's paradigm. With a world market share exceeding 20%, GE Medical is the leader in a fiercely competitive industry whose other big players include Siemens, Toshiba, and Philips. Its share in the CT and MRI scanning business is more than double the nearest competitor. The paradigm has shifted.

Says Trani: "Growth the way we did it is not easy. Change is never easy when you do it on multiple fronts. But the organization that adapts itself continuously will win, and for that you have to have leaders and managers who love change." Trani cautions that paradigms don't shift by thinking about them. "At best, the plan is 20% of the game," he says. "Execution is 80% of it. Pick the right people. Allocate the resources. Build the organization's competency."

At GE, top management forced radical action all across a company they describe as "borderless." But paradigm shifts sometimes break out in isolated parts of giant companies less focused on radical change. IBM -- whose modern success all stems from its bold 1950s paradigm shift to computers -- has had trouble more recently wringing out badly needed innovation and speed from its sluggish bureaucracy. Its frog is far from boiled, but the heat is rising, and it has had some narrow brushes with disaster. One such escape came in the form of an unqualified, paradigm-shifting success: the fast-track development of the AS400 midrange computer. Built in 28 months -- from conception to first shipment -- the AS400 has been crucial to IBM's maintaining competitiveness in a huge market segment it couldn't afford to yield. Introduced three years ago, the AS400 has sold over 150,000 units and is now tied with Digital Equipment's VAX line as the market leader. Last year its sales totaled \$14 billion. Like the creation of HP's LaserJet, the birth of the AS400 broke one institutional rule after another.

"We didn't want old wine in new bottles," says Tom Furey, who directed the project. "We had to have artificial intelligence, storage of fax and telephone data, PBX interface, and lots more. But it had to be quick, so we bet the entire schedule that we could build the processor on the first pass. If we had been wrong, we'd have been dead wrong, and that would have been it for IBM in the midrange computer business."

EVERYONE on the project, says Furey, pursued the same vision -- to introduce a machine that would be the market leader by 1991. "We had a lot of resistance to change," he says, "but everyone was so inspired by that simple goal that they never stopped." One move that horrified IBM old-timers came when the machine reached the prototype stage. Furey invited customers, consultants, and software suppliers to join in the design process, something simply not done at ultraproproprietary Big Blue. "We were risking too much not to do it," says Furey. "We couldn't risk building it in isolation." Being located in Rochester, Minnesota, however -- isolated from company headquarters -- was a big advantage. "It didn't hurt at all to be in the hinterlands of Minnesota in the dead of winter," he recalls. "We had very few visitors, very few staff people second-guessing us every step of the way." Does Furey, now general manager of IBM's laboratory in San Jose, California, consider himself a maverick? "I don't know. I'm not satisfied with things the way they are, but I don't think I'm antisystem," he says. "I work within the system but throw out old rules."

IN TODAY'S unforgiving business climate, more and more rule books are winding up in the trash. At British Petroleum, the international oil and chemicals giant, new chairman Robert Horton recently embarked on a corporate restructuring that declared only one sacred cow: the existence of the corporation.

At previously ultrasuccessful Honda -- whose market share in Japan has become stagnant -- sacred management ground has been churning under the restructuring plow. Before, Honda executives made most decisions by following the late founder Soichiro Honda's nonhierarchical system of gathering at three tables on the executive floor -- a table each for issues involving people, finance, and products. Although the tables remain symbolically in place, "Honda saw a need for faster decisions, formalized responsibilities, and a chain of command," says Hiroataka Takeuchi, a consultant and international marketing professor at Japan's Hitotsubashi University. So for the first time, each of Honda's 29 executive officers is assigned to a specific function or division.

Lots of other large corporations in a variety of industries -- retail, auto, airline, banking and financial services, broadcasting, publishing, and advertising -- are struggling to adjust to new economic realities. Quite simply, says Ram Charan, "those who don't shift, will get shifted. And no company in the world, No. 1 market share or not, is immune from becoming dust."

One of the toughest things about paradigms is the variety of flavors they come in: geopolitical, economic, sociological, demographic, ethnic, technological, environmental, organizational. Which to look at first?

Of all these, the one most certain to alter the way we work and do business in the foreseeable future is the continuing evolution of information technology. At think tanks such as MCC, the Austin consortium, the buzzphrase these days is "the seamless system of electronic commerce." Key questions being asked at such research institutions: What products and services will be required in the future? How can companies transfer the increased efficiency of shared technology to the bottom line? What are the enabling technologies of the future?

Answers pop up in such currently fashionable concepts as on-demand production, electronic self-design, concurrent engineering, and a custom-targeted electronic marketplace. These concepts are all designed to increase manufacturing flexibility, and some already operate in the real world:

-- In Japan, Toyota buyers can select any combination of features and colors they desire on Monday morning, and pick up the car on Friday afternoon.

-- Buyers of Motorola pagers can order from a variety of features in several million combinations and have the finished product shipped to them within two hours.

-- Some banks can now complete the processing of a mortgage application in 24 hours.

As such applications of technology develop, they are certain to spell profound change in the way customers order and receive goods, the way manufacturers plan and finance inventories, and the way people in the sales chain earn their living. It may be possible that a niche will always exist out there for companies that don't want to change, for executives who are willing to hang their hat on the tried and true. But if so, it's a damned small niche. For the rest of us, the paradigm -- largely driven by technology -- is shifting faster than at any time in history. Fear is entirely the wrong reaction, though. Once it's been identified, all that's needed to successfully parry a shifting paradigm, ironically, is old-fashioned smart management, operating with a clear head and confidence in its mission.

The alternative is to dig your old Whole Earth catalogues out of the attic and move to the deep woods -- where frogs rarely boil.

CAPTION: Dick Hackborn's perspective from his Boise, Idaho, perch makes it easier to take risks and break new ground at Hewlett-Packard.

CAPTION: Few in Detroit believed Hal Sperlich's minivan had a market.

CAPTION: John Trani's GE division outside Milwaukee offers sanctuary to endangered trumpeter swans. But it's open season on managers who don't add

value.

CAPTION: Horse-lover Furey gave his team free rein to create IBM's AS400 computer a different way.

The word paradigm -- pronounced as in "Brother, can you paradigm?" -- seems about as likely a candidate for hot buzzword as its equally obscure neighbor in the dictionary, paradiddle, which, for those who don't know, is a kind of drum roll. But paradigm actually began its ascent into common usage almost 30 years ago, with the publication of an influential book, *The Structure of Scientific Revolutions*, by Thomas Kuhn, now a professor emeritus at MIT.

Before Kuhn, the word simply meant a pattern, often associated with the conjugation of verbs in Latin. Kuhn used paradigm to describe archetypal scientific constructs -- like Newton's laws of physics -- that define the way other scientists come to look at the world. Like a virus, the word spread far beyond science and came to mean basically any dominant idea. As Kuhn told *Scientific American* of those who admiringly misinterpret him: "I've often said I'm much fonder of my critics than my fans."

One fan, Joel Barker, gets most of the credit for first applying the concept to business theory and delivering it into the hands of the management consultants. Barker, who describes himself as a "process futurist," started talking about paradigms in 1974. Since then the former English teacher has created a virtual industry from the word, flogging it in lectures and in a book and videotape entitled *Discovering the Future: The Business of Paradigms*. The videotape costs \$900 and has sold 15,000 copies.

Barker has never met Kuhn, but he acknowledges him as the father of the concept that has been so good to him. The video, which is simplistic, won't save your company, but if you're still fuzzy on what a paradigm is, it will clear that up for you.

CAPTION: Barker: paradigm populizer

ⁱⁱⁱ Following is the break-even chart of the General Motors Corp used to get investors to buy-in to a copy-cat company intent on taking Ford's market. They knew they would operate at a loss for the first few years so in effect they "bought into the market", a common practice with Japanese industrialists today.

