Crises force organizations to replace top managers, so top managers should try to avoid crises through continuous unlearning. The authors suggest ways in which top managers can help themselves unlearn.

To Avoid Organizational Crises, Unlearn

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Organizations learn. Then they encase their learning in programs and standard operating procedures that members execute routinely. These programs and procedures generate inertia, and the inertia increases when organizations socialize new members and reward conformity to prescribed roles. As their successes accumulate, organizations emphasize efficiency, grow complacent, and learn too little. To survive, organizations must also unlearn.

Top managers' ideas dominate organizational learning, but they also prevent unlearning. Encased learning produces blindness and rigidity that may breed full-blown crises. Our studies of organizations facing crises show that past learning inhibits new learning: Before organizations will try new ideas, they must unlearn old ones by discovering their inadequacies and then discarding them. Organizations in serious crises often remove their top managers as a way to erase the dominating ideas, to disconfirm past programs, to become receptive to new ideas, and to symbolize change.

This article begins by describing some organizational crises and the ways in which top managers' past learning only made the crises worse. The following section shows how clever managers have executed remarkable turnarounds by changing their organizations' beliefs and values. After considering why organizations unlearn by the drastic step of replacing top managers en masse, the article urges top managers to accept dissents, to interpret events as learning opportunities, and to characterize actions as experiments.

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Exhibit 1
SURVIVALS BY U.S. CORPORATIONS

Ages in Years	*Percentages Surviving to Various Ages*	*Percentages Surviving at Least Five Years After Various Ages*
5	38	55
10	21	65
15	14	70
20	10	73
25	7	76
50	2	83
75	1	86
100	0.5	88

LEARNING FROM CRISES

Many managers and scholars think that organizational survival indicates effectiveness. Survival is an insufficient measure of effectiveness, but the organizational survival rates are so low that there is clearly much room for improvement. Exhibit 1 gives some approximate statistics for American corporations: Only 10 percent survive 20 years. Moreover, of those that do survive 20 years, more than a fourth disappear during the ensuing five years. The statistics for U.S. federal agencies look much like those for corporations.

A crisis is a situation that seriously threatens an organization's survival. We have spent several years studying organizations in crises—why crises arise, and how organizations react. Our studies suggest that most organizational failures are quite unnecessary. The following two cases illustrate typical patterns.

Company H successfully published a prestigious daily newspaper for more than 100 years. Circulation reached a new peak in 1966, and the managers invested in modern printing equipment. The following year, circulation leveled off and advertising income dropped, while costs increased. Despite altered accounting procedures, the next year brought losses and a severe cash shortage. The board reacted by focusing even more intensely on cost control; a proposal to change the product a bit was rejected with laughter. Another bad year led the managers to raise prices radically and to form a task force to study corrective actions. Of five alternatives proposed by the task force, the board chose the only one that avoided all strategic reorientation. That is, the board decided to concentrate on those things the organization had always done best and to cut peripheral activities. Many key staff departed. Financial losses escalated. In 1972, the managers sold the printing equipment to pay operating costs, and Company H disappeared altogether a year later.

In the late 1960s, Company F made and sold mechanical calculators as well as typewriters and office furnishings. The company had succeeded consistently for nearly 50 years, and its top managers believed that no other company in the world could produce such good mechanical calculators at such low costs. These beliefs may have been accurate, but they soon proved irrelevant, for an electronic revolution had begun. Although some of the company's engineers had designed electronic calculators and computers, the board decided against their production and sale. The board understood how to succeed with mechanical calculators, the company had invested heavily in new plants designed specifically to manufacture mechanical calculators, this industry had always evolved slowly, and the board believed that customers would switch to electronic calculators only gradually. However, sales began a dramatic decline in 1970, and profits turned into losses. The board retrenched by closing the factories that manufactured typewriters and office furnishings in order to concentrate on the company's key product line: mechanical calculators. After three years of losses, bankruptcy loomed and the board sold Company F to a larger company. What happened next is reported later in this article.

These cases illustrate that top managers may fail to perceive that crises are developing. Other people see the looming problems, but either their warnings do not reach the top, or the top managers discount the warnings as erroneous. When top managers eventually do notice trouble, they initially attribute the problems to temporary environmental disturbances, and they adopt weathering-the-storm strategies: Postpone investments, reduce maintenance, halt training, centralize decision making, liquidate assets, deny credit to customers, raise prices, leave positions vacant, and so forth. During this initial phase of crises, top managers rely on and respond to routine formal reports, particularly accounting statements, that present only superficial symptoms of the real problems. A major activity becomes changing the accounting procedures in order to conceal the symptoms.

In real crises, weathering-the-storm strategies work only briefly. Then the symptoms of trouble reappear; only this time, the organizations start with fewer resources and less time in which to act. The second phase in organizations' reactions to crises involves unlearning yesterday's ideas. People in organizations rarely abandon their current beliefs and procedures merely because alternatives might offer better results: They know that their current beliefs and procedures have arisen from rational analyses and successful experiences, so they have to see evidence that these beliefs and procedures are seriously deficient before they will even think about major changes. Continuing crises provide this evidence. People start to question the conceptual foundations of their organizations, and they lose confidence in the leaders who advocated and perpetuated these concepts. Conflicts escalate as dissenters, voicing new ideas, challenge the ideas of top managers.

Reorienting by Changing Cognitive Structures

Some people see potential crises arising and others do not; some understand technological and social changes and others do not. What people can see, predict, and understand depends on their cognitive structures – by which we mean logically integrated and mutually reinforcing systems of beliefs and values. Cognitive structures manifest themselves in perceptual frameworks, expectations, world views, plans, goals, sagas, stories, myths, rituals, symbols, jokes, and jargon.

Not only do top managers' cognitive structures shape their own actions, they strongly influence their organizations' actions. Albert King conducted a field experiment that reveals the power of a top manager's expectations. A top manager of Company J told the managers of plants 1 and 2 that he expected job redesigns would raise productivity, and he told the managers of

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plants 3 and 4 that he expected job redesigns would improve industrial relations but would not change productivity. What actually happened matched the top manager's initial statements. In plants 3 and 4, productivity remained about the same, and absenteeism declined. In plants 1 and 2, productivity increased significantly, while absenteeism remained the same. What makes the experiment even more interesting is that different types of job redesign were used in plants 1 and 3 than in plants 2 and 4. Plants 1 and 3 implemented job enlargement whereas plants 2 and 4 implemented job rotation, yet both types of job redesign produced the same levels of productivity and absenteeism. Thus, differences in actual job activities produced no differences in productivity and absenteeism, whereas different expectations did produce different outcomes.

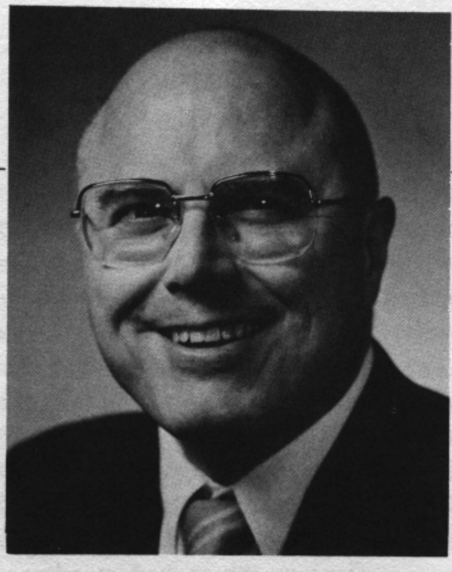
Expectations and other manifestations of cognitive structures play powerful roles in organizational crises, both as causes and as possible cures. The Chinese exhibited great wisdom when they formed the symbol for crisis by combining the symbols for danger and opportunity: Top managers' ideas strongly influence whether they and their organizations see opportunities as well as dangers. For example, Company F, one of the companies described earlier in this article, surmounted its crisis primarily because a change in its top managers introduced different beliefs and perceptions.

Its top managers and board saw Company F as being designed to adapt to slow, predictable changes in technologies and markets. They initially predicted that electronic calculators would have slow, predictable effects, and the sudden electronic revolution both bewildered and terrified them. They decided that, for their company, the electronic revolution posed an insurmountable challenge. As it floundered at the brink of disaster, Company F was acquired by Company E, which promptly fired all of F's former top managers.

The top managers of Company E soon discovered opportunities that seemed obvious to them: Demands for typewriters and office furnishings were two to three times production capacities; sales staff had been turning down orders because the plants could not fill them! Also, the company's engineers had designed good electronic calculators and computers that the previous board had refused to put into production. The new top managers talked optimistically about opportunities rather than dangers, challenges rather than threats. They borrowed a small amount of money from the parent company with which to experiment, they converted plants producing mechanical calculators into ones making typewriters and office furnishings, and they authorized production and energetic marketing of electronic products. Within a year of acquisition, losses converted into profits, production and employment began rising, and optimism prevailed again.

Top managers' cognitive structures also block recoveries from crises. In Company H, the newspaper described earlier, the top managers' beliefs intensified their commitment to a faulty strategy, generating actions and inactions that sealed the company's fate.

Top managers who clung steadfastly to incorrect ideas also undermined the success of Company T, which made and sold consumer electronics equipment such as television receivers, tape recorders, loudspeakers, and radios. Sales had doubled about every three years over its 40 years' existence. The top managers invested in two new plants in order to replace labor with capital because they thought that labor costs were rising too rapidly relative to sales revenues. Sales growth slowed substantially while these new plants were being constructed. The top managers attributed this deceleration to various environmental factors even though available evidence contradicted each of their attributions. The top managers asserted that these problems would be solved by the new plants with low labor costs that would enable lower prices. In the fourth year of this crisis, the national government lent Company T many millions of dollars to save it from collapse.



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But the loan only postponed the collapse for two years . . . and increased its cost.

A Harsh Way to Unlearn

Organizations succumb to crises largely because their top managers, bolstered by recollections of past successes, live in worlds circumscribed by their cognitive structures. Top managers misperceive events and rationalize their organizations' failures. Some top managers, like those in Company F, admit privately that they do not understand what is happening and do not know what to do, while publicly they maintain facades of self-assurance and conviction. Other top managers, like those in Company T, never doubt that their beliefs and perceptions have more validity than anyone else's.

Because top managers adamantly cling to their beliefs and perceptions, few turnaround options exist. And because organizations first respond to crises with superficial remedies and delays, they later must take severe actions to escape demise. They must replace constricting, hopeless cognitive structures. But if only one or a few new managers join an ongoing group, either they adopt the prevailing cognitive structure or the other managers regard them as deviants with foolish ideas. Crises intensify these social processes by creating a wagon-train-surrounded-by-Indians atmosphere. So the top managers must be removed as a group, except for the rare individuals who dissented from the prevailing beliefs and perceptions. Moreover, revitalizing a crisis-ridden organization requires enthusiasm and energy . . . these from people who have grown cynical after hearing their top managers make failed promises and hollow excuses for several years. Before they will replace their cynicism with effort and vision, the people have to be convinced that this time, at last, someone is serious about making real changes. One way to do this, usually the only way, is to turn the former top managers into scapegoats.

Cognitive reorientations spark corporate turnarounds. Some enterprising people take over ailing corporations and successfully convert losses into profits by seeing opportunities that the former managers overlooked. Conversely, William Hall reported that turnaround efforts generally fail when firms in stagnating industries get subsidies from their parent corporations or from governments. The difference in outcomes seems to spring from infusions of new ideas, not solely infusions of financial resources. Indeed, the financial infusions are usually small in successful turnarounds. Strategic reorientations are rooted in cognitive shifts, and turnarounds almost always involve both significant changes in top management and changes in overall strategies.

Company S, which made ferrous screws, lapsed into persistent losses caused by aging machinery and brisk competition. A new president and vice-president for marketing embarked on a strategic reorientation: shifting from large orders of ferrous screws to small orders of nonferrous screws. But two years of persuasion failed to loosen the other top managers' adherence to old modes of acting and thinking. Because the two new managers could not afford to waste more time, they replaced their colleagues. Company S subsequently achieved substantial success.

Removing people is a quick, effective way of erasing memories. Our colleague, Bo Hedberg, reviewed the psychological literature and concluded that unlearning must precede the learning of new behaviors. But top managers show a quite understandable lack of enthusiasm for the idea that organizations have to replace their top managers en masse in order to escape from serious crises. This reluctance partially explains why so few organizations survive crises.

Unlearning Continuously

Top managers might try to keep emerging

crises from becoming serious, by reacting promptly to early symptoms of trouble and by avoiding weathering-the-storm strategies and superficial cover-ups. But not all symptoms warrant prompt reactions, and weathering-the-storm strategies can be useful. The top managers we studied all believed that they were acting wisely (at least when they took the actions), but they were misled by their faulty beliefs and perceptions. Faulty cognitive structures do not always plunge organizations into crises, but they do always keep managers from controlling their organizations' destinies.

To stay in control of their futures, top managers have to combat the inevitable errors in their own beliefs and perceptions. This is, of course, very difficult. It demands exceptional objectivity and humility as well as enough self-confidence to face errors within oneself. But it is easier to keep managers' cognitive structures continuously realistic and up-to-date than to try abruptly to correct errors that have added up and reinforced each other. And it is easier to correct cognitive structures while things are going well than to do so after troubles develop.

Top managers can stimulate their own unlearning and new learning in at least three ways: They can listen to dissents, convert events into learning opportunities, and adopt experimental frames of reference. The next three sections give examples of ways in which top managers can use these methods to benefit themselves and their organizations. However, we intentionally stop short of offering how-to-do-it prescriptions. Managers often get into trouble by trying to follow prescriptions that have been formulated by someone else in a different situation. For one thing, obeying someone else's prescriptions requires a partial substitution for one's best judgment. The simpler and more practical prescriptions sound, the more trust one puts in them, and so the more danger they pose. For another thing, effective methods of getting things done respect the constraints and exploit the opportunities that distinguish specific situations. We also question the view that "If managers knew how to do it, they would already be doing it." Many managers exhibit great skill at creating pragmatic techniques and procedures to achieve the goals they are pursuing. Top managers who want

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to unlearn will likely find ways to do it, ways that mesh with the other aspects of their jobs. But the top managers we studied never looked upon their past learning as impediments and they never tried to unlearn.

Listening to Dissents

Complaints, warnings, and policy disagreements should cause reflection that sometimes leads to unlearning. Because such messages assert that something is wrong, top managers ought to respond by reconsidering their beliefs and practices. However, well-meaning colleagues and subordinates normally distort or silence warnings and dissents. So top managers receive only some of the messages sent, and even these messages arrive in watered-down forms, often accompanied by defensive rationalizations.

Moreover, research shows that people (including top managers) tend to ignore warnings of trouble and interpret nearly all messages as confirming the rightness of their beliefs. They blame dissents on ignorance or bad intentions — the dissenting subordinates or outsiders lack a top manager's perspective, or they're just promoting their self-interests, or they're the kind of people who would bellyache about almost anything. Quite often, dissenters and bearers of ill tidings are forced to leave organizations or they quit in disgust, thus ending the dissonance. For example, after Company F had struggled with its crisis for two years, the head of the typewriter division quit in protest over his colleagues' decisions to sell typewriter plants in order to get funds to subsidize the production of mechanical calculators. His division was the only division earning a profit.

Lyman Porter and Karlene Roberts reviewed research showing that top managers do not listen carefully to their subordinates. People in hierarchies talk upward and listen upward: They send more messages upward than downward, they pay more attention to messages from their superiors than to ones from their subordinates, and they try harder to establish rapport with superiors than with subordinates. People also bias their upward messages to enhance good news and to suppress bad news, yet they overestimate how much real information they transmit upward. Although these communication patterns are understandable, they are also harmful. In every crisis we studied, the top managers received accurate warnings and diagnoses from some of their subordinates, but they paid no attention to them. Indeed, they sometimes laughed at them.

After studying 20 corporations enmeshed in crises, Roger Dunbar and Walter Goldberg concluded that the chief executives generally surrounded themselves with yes-sayers who voiced no criticisms. Worse yet, the yes-sayers deliberately filtered out warnings from middle managers who saw correctly that their corporations were out of touch with market realities. Many of these middle managers resigned and others were fired for disloyalty.

Top managers might maintain more realistic cognitive structures if they would personally interview some of the people leaving their organizations. But why wait until people exhaust their loyalty and decide to leave? Top managers should listen to and learn from dissenters, doubters, and bearers of warnings. Not all dissents are valid, and warnings are often wrong, but dissents and warnings should remind one that diverse world views exist, that one's own beliefs and perceptions may well be wrong. Indeed, top managers should worry if they hear no such messages: Long silences signal distortion, not consensus. Although consensus sometimes occurs within top-management groups, we have found no organizations in which strong consensus pervaded the managerial ranks. Furthermore, Peter Grinyer and David Norburn conducted careful research that found no benefits from strategic consensus: Firms in which managers disagree about goals, policies, and strategies earn just as much profit as firms in which managers agree.

How are top managers to know which dissents and warnings to consider seriously? They certainly dare not rely on their own judgments about ideas' validity because everyone's beliefs and perceptions contain errors. Messages that sound obviously correct add little to knowledge. On the other hand, messages that sound fanciful can highlight defects in one's knowledge, because they arise from premises quite different from one's own.

We recommend this screening procedure: First, assume that all dissents and warnings are at least partially valid. Second, evaluate the costs or benefits that would accrue if messages turn out to be correct: Fanciful messages typically entail high costs or benefits; realistic messages likely entail low costs or benefits. Third, try to find some evidence, other than the messages' content, about the probabilities that messages might prove to be correct. For instance, have the messages' sources acted as if they truly believe what they are saying? Are the sources speaking about their areas of special expertise? Fourth, find ways to test in practice those dissents and warnings that might yield significant costs or benefits. Launch experimental probes that will confirm, disconfirm, or modify the ideas.

Exploiting Opportunities

Changes induce people to question their world views. One very successful organization, Company G, actually appointed a vice-president for revolutions, who stepped in approximately every four years and shook up operations by transferring managers and reorganizing responsibilities. When asked how he decided what changes to make, he answered that it made little difference so long as the changes were large enough to introduce new perceptions. Statistics show that productivity rose for about two years after each shakeup, then declined for the next two years, until another shakeup initiated another productivity increase.

Company G's practice should be imitated widely. The vice-president for revolutions injected unexpected and somewhat random question marks into operations that, otherwise, would have grown smug and complacent through success and would have lost opportunities and alertness through planning. Indeed, Company G itself might have benefited from more frequent doses of its own medicine: Shouldn't the shakeups have happened every two years, when productivity had peaked and before it began to decline?

However, managers would not have to generate so many question marks if they turned spontaneous events into question marks. Managers can create unlearning opportunities by analyzing the consequences of such events as new laws, technological innovations, natural disasters, disrupted supplies, fluctuating demands for outputs, and recessions. Our colleague, Alan Meyer, learned a lot about the dynamics of hospital organizations because he happened to be studying some hospitals when they were jolted by a doctors' strike. To his surprise, he found that ideologies were more powerful than structures as forces guiding organizational responses. The hospitals that took best advantage of the strike were ones with ideologies that cherish dispersed influence in decision making, frequent strategic reorientations, and responsiveness to environmental events. Such hospitals both anticipated the effects of the strike and used the strike as a stimulus for long-run improvements.

One of the most successful adaptations to the doctors' strike was made by Hospital C. This hospital's culture values innovation, professional autonomy, and pluralism; its administrator urges the subunits to act entrepreneurially and to maintain bonds with the community. The administrator himself devotes 70 percent of his time to outside relationships, and he predicted the strike two months before it began—well before other hospitals anticipated it. Because he purposely avoids codifying procedures and formalizing relationships, he subtly encouraged the (overtly spontaneous) coalescing of an informal group to consider the strike's impacts. This group sent all supervisors a scenario of what might happen and asked them to write up plans for response. When the strike occurred, Hospital C cut costs and reallocated resources so quickly that it continued to earn a profit; and after the strike ended, the hospital easily adapted back. The administrator said, "We learned that we could adapt to almost anything—including a drastic drop in our patient load—and, in the process, we discovered some new techniques for cutting our operating costs."

Experimenting

Experimentation offers many benefits as a central frame of reference for top managers. People who see themselves as experimenting are willing to deviate temporarily from practices they consider optimal in order to test the validity of their assumptions. When they try out other people's ideas that they themselves expect to be suboptimal or foolish, they create opportunities to surprise themselves. They also manage experiments in ways that cut down the losses that failures would produce; for instance, they attend carefully to feedback. Because they place fewer personal stakes on outcomes looking successful, they evaluate outcomes more objectively. They find it easier to modify their beliefs to accommodate new observations. And they keep on trying for improvements because they know experiments never turn out perfectly.

A team from McKinsey & Company studied ten companies that executives think are unusually well run. Experimenting tops

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the list of characteristics they have in common. To quote Thomas Peters' conclusion from *Business Week* (July 21, 1980):

> Controlled experiments abound in these companies. The attitude of management is to "get some data, do it, then adjust it," rather than wait for a perfect overall plan.

Managers can program some searches for better ideas. For example, evolutionary operation (EVOP) is a well thought-out method for continual experimentation. The basic idea is to run experiments that entail little risk because they deviate only incrementally from what the experimenters believe to be optimal operation. The experiments should be planned and interpreted by committees that are carefully designed to meld technical expertise and political clout. Although George Box and Norman Draper created EVOP as a way to improve manufacturing processes, the basic ideas generalize to repetitive activities in finance, marketing, personnel management, and office procedures.

Experiments need not be carefully designed in order to be revealing, and they need not be revealing in order to stimulate unlearning, but it is better to use experiments fruitfully. Company K's experience suggests some of the differences between fruitful and unfruitful experiments.

Company K had successfully made and repaired railroad rolling stock for almost 90 years; then, in 1963, the nation's major railroad announced that it would buy no more new rolling stock from anyone for the foreseeable future. Company K's managers saw the railroad industry collapsing about them, so they studied several possibilities and chose three new product lines for development. After two years, however, the company had achieved no sales whatever in two of these lines. The managers launched two more experimental product lines, but they concentrated their efforts on the one new product line that looked most promising: a small automobile. Sales multiplied two and a half times over the next five years, but profits were only 0.8 percent of sales! Despite frequently repeated dire predictions, railroad rolling stock was accounting for 95 percent of sales; and despite frequent hopeful predictions, the automobile had not yet gotten into production and was generating high costs. When the automobile finally did come into production in 1970 the result was horrendous losses in both 1970 and 1971—so horrendous that the directors decided to close the company.

Why did Company K's experiments turn out so badly? One reason was too many eggs in one basket. The managers poured all their energies and most of their company's money into the automobile; their experiments with other new product lines were half-hearted and ritualistic. A second reason was an absence of feedback. The managers ignored evidence that the automobile project was developing badly and evidence that the rolling-stock business was doing well. Nor did they learn from their failures. Recall that two of their experimental product lines yielded zero sales: Might this have occurred because Company K had no sales personnel, not even a sales manager? Might it have forewarned what would happen when the automobile came into production? Company K did add a sales department to promote the automobile: a sales manager and one salesman!

Shortly after the directors decided to close Company K, five of the six top managers and half of the lower-level employees departed voluntarily. The board appointed the remaining senior manager president, with orders to continue shutting the company down. Instead, the new president (who had nothing to lose) launched some new experiments. These disclosed substantial foreign demand for railroad rolling stock—the previous managers had ignored foreign markets. The experiments also showed that the blue-collar workers could run the factory themselves with very little assistance from managers—the previous managers had created a competitive game in which managers and workers were trying to outsmart each other. In fact, after they took charge, the blue-collar workers doubled productivity: By 1974, production was 36 percent higher than in 1963 even though employment was only 69 percent of the earlier figure. Two new product lines were tried, and one of these became as important as rolling stock. By then, the directors had decided to keep the company in business. Profits in 1975 were six times the highest profits the company had ever earned previously, and they have continued upward since.

Why did the second wave of experiments turn out so differently? The directors' decision to close Company K initiated unlearning: The people who departed took with them their convictions about how the company should operate and what opportunities the environment offered; the people who remained became ready to abandon their past beliefs. No longer sure they knew what to do, people tried some experiments that they would previously have rejected as outrageous or silly. The company had no resources to squander on experiments that were turning out badly, so everyone paid close attention to how the experiments were turning out: Feedback quickly had real effects. Not least, the new president was an unusually wise man who knew how to engender enthusiasm, entrepreneurship, and a team spirit.

Conclusion

Our studies underline top managers' dominance of their organizations' survival and success. Top managers are the villains who get blamed for steering organizations into crises, and they are the heroes who get the credit for rescuing organizations from crises. Such blaming and crediting are partly ritualistic, but also partly earned. Top managers do in fact guide organizations into crises and in-

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tensify crises; they also halt crises by disclosing opportunities, arousing courage, and stirring up enthusiasm.

The top managers who instigate dramatic turnarounds deserve admiration, for they have accomplished very difficult tasks of emotional and conceptual leadership. Even greater heroes, however, are the top managers who keep their organizations from blundering into trouble in the first place. To do this, they have had to meet the still more difficult challenge of conquering the errors in their own beliefs and perceptions.

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