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Strategic competitiveness in the 1990s: challenges and opportunities for U.S. executives

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Executive Overview

U.S. firms face a major global competitiveness challenge. Although the problems relate, in part, to differences in the economic structure, history and cultural differences between the U.S. and foreign rivals, these factors may not explain as much of the variance in competitiveness as they did in the past. Competitiveness problems are also linked to a number of strategic factors under the control of managers. Among them are the absorption of managerial energy in mergers and acquisitions, increasing levels of debt, increasing firm size, greater firm diversification, lack of investment in human capital and inappropriate corporate culture.

In response to these problems, many firms are restructuring. When executed properly, restructuring can help managers regain strategic control and improve the competitiveness of their companies. However, restructuring efforts must be accompanied by a renewed emphasis on competitive strengths, improvements in human resource development programs, a refocus on innovation and quality, promotion of an entrepreneurial culture and a global, long-term strategy.

Article

In 1964 Xerox introduced the first commercial fax machine but in 1989 had only seven percent of U.S. fax sales. Japanese firms accounted for 67 percent of the U.S. fax market. Raytheon marketed the first microwave oven (called Radarange) to restaurants in 1947 and sales boomed when it introduced the household version in 1967. Today, 75 percent of the microwaves sold in the U.S. market are made in Pacific Rim countries. During the decade of the 1980s, American auto manufacturers closed 13 assembly plants while Japanese firms built 11 new auto manufacturing plants in the United States. Leo McKernan, CEO of Clark Equipment stated, "In the 1980s LBOs, takeovers and global competition left a path of destruction out there. Now somebody is going to have to fix it."¹

Most executives agree that U.S. firms face a global, competitive challenge of immense proportions. In a recent survey of 4,000 executives, 92 percent noted that U.S. competitiveness was declining and 87 percent believed that the competitiveness problem predated the 1980s. A concurrent survey of opinion leaders (e.g., economists, political leaders, CEOs of large corporations) led to the same conclusions.²

Competitiveness problems are not limited to trade with Japan. According to a 1987 report by the Council on Competitiveness, the United States has not fared well in comparison to Canada, France, Italy, the United Kingdom, West Germany, or

Japan. Each of these countries outperformed the U.S. in gains in standard of living, trade, productivity, and investment since 1974.³ Another study traced the world market share of firms in fifteen major industries. The U.S. held over two-thirds of the world market in 10 of these industries in 1960, dominated 9 in 1970, and led in only 3 industries (aerospace, paper, and computers and office equipment) by 1980.⁴

Differences in the cost of labor and the cost of capital are usually blamed for the decline of U.S. competitiveness. In this article, we argue that many of the competitive advantages previously attributed to Japan are either not as strong as perceived or have faded. This article also extends previous arguments on U.S. competitiveness problems by examining issues of *strategic competitiveness*; that is, strategic issues affecting firms that are under managers' direct or indirect control. Finally, we offer recommendations for potential solutions.

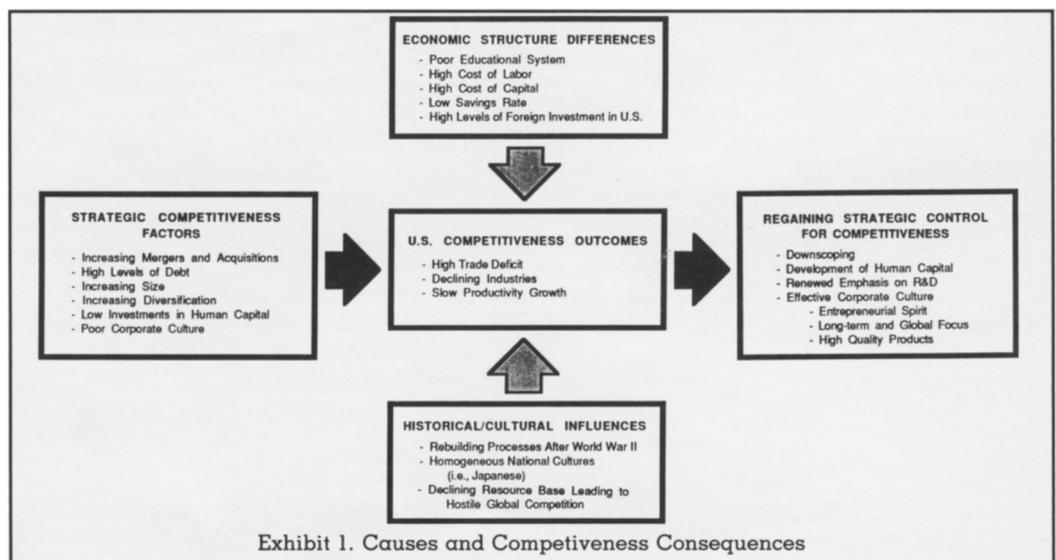
Explanations of Competitiveness Problems

Despite general consensus that the competitiveness of U.S. firms has declined, there is little agreement as to the causes. The model in Exhibit 1 separates strategic competitiveness explanations (those areas that managers might influence) from explanations focusing on differences in economic structure, and historical and cultural differences. We briefly review economic structure, historical and cultural influences on competitiveness (gray arrows) and demonstrate that some of these forces may not be as strong as they have been in the past. Regardless of their strength, managers can do little to alter these forces. Therefore, we focus most of our attention on competitiveness factors that are directly or indirectly under managerial control (solid arrows).

Economic Structure Differences

While still high, U.S. productivity has grown at a much slower rate during the past 25 years than other advanced industrial countries. For example, between 1970 and 1986, U.S. productivity rose at an average annual rate of 2.9 percent. This compares to Great Britain's 3.4 percent, 3.8 percent in Germany, 4.2 percent in France, and 6.0 percent in Japan. If we use 1950 as a base of 100, by 1988 U.S. productivity had grown to about 200, West Germany to 650, and Japan to 2000.⁵

It has been suggested that the disparity between U.S. and foreign productivity is directly related to educational system differences, the cost of labor, and the cost of



capital. Associated with these problems are the low savings rate and increases in foreign investment in the United States.

For example, a company built a new plant with computer-integrated manufacturing and statistical process controls but the employees could not operate the equipment because 25 percent of them were illiterate.

Poor Educational System. It is estimated that approximately 20 percent of adult Americans are functionally illiterate and that over 25 percent of our high school students do not graduate. The effects of this problem are dramatic. For example, a company built a new plant with computer-integrated manufacturing and statistical process controls but the employees could not operate the equipment because 25 percent of them were illiterate.⁶ It has also been argued that U.S. high school students' math skills are lower than foreign students'. On the other hand, it is argued that the U.S. educational system promotes greater creativity. However, U.S. businesses have failed to capitalize on this comparative advantage.

Managers have little direct control over the basic educational system, although they certainly can lobby national and local governments for educational reform. Managers also rarely have much control over other structural issues, such as the cost of labor and the cost of capital.

High Cost of Labor. The cost of labor is often described as a structural problem in comparison to other nations, especially those in the Pacific Rim. Although this may continue to be the case for developing countries such as Taiwan and Korea, labor costs of Japan are reaching parity with the United States. The Bureau of Labor Statistics recently reported that the average cost per hour of wages in 1988 was \$13.90 in the U.S. compared to \$13.14 in Japan. Therefore, low wages no longer provide the Japanese with a distinct competitive edge. Although salaries of American top executives are substantially higher than their Japanese counterparts, compensation of middle managers in Japan are higher (median compensation of middle managers: Japan—\$85,649; U.S.—\$56,505).⁷

High labor costs do not automatically produce a competitive disadvantage. Some U.S. firms (e.g., Lincoln Electric) use reward systems characterized by generous employee compensation to produce high efficiency, quality, and innovation. In fact, the cost of labor is often less than fifteen percent of total product costs.

High Cost of Capital/Low Savings Rate. Experts argue that U.S. firms must improve their capital investment, emphasizing automation (thereby reducing labor costs). Furthermore, this change is necessary if U.S. firms are to match foreign competitors' productivity growth. It is often suggested that the high cost of capital in the United States discourages investment in capital equipment.

High labor costs do not automatically produce a competitive disadvantage.

Recent evidence suggests that major inputs affecting the cost of capital may be closer between Japan and the U.S. than previously acknowledged. In a recent *Wallstreet Journal* article, Kenichi Ohmae argued that, due to measurement errors, previous differences in savings rate comparisons of Japanese (16.6 percent) and Americans (4.3 percent) may not be accurate. Using Ohmae's adjustments, plus adjusting for comparable asset bases, the Bank of Japan estimated the U.S. savings rate as 14.7 percent and the Japanese as 16.7 percent. The standard U.S. rate has been increasing.⁸ This suggests that the cost of capital in both countries may be closer than earlier estimates showed.

These arguments suggest that although structural differences may continue to explain some variance in competitiveness, they may not be as salient as they once were.

Historical/Cultural Influences

The decline of U.S. competitiveness also has been linked to historical trends in the global economy and to cultural differences across country borders.

Rebuilding Processes. Relatively low productivity gains of American firms are often attributed to post-World War II rebuilding processes in Germany and Japan. The economic infrastructure of these countries was decimated during World War II, but post-war rebuilding processes allowed newer and more productive plants and equipment to replace destroyed assets. More than four decades have now passed since the end of World War II. While Germany and Japan may have had a head start in acquiring updated plants and machinery, this advantage has diminished with time and probably accounts for very little new productivity growth.

Homogeneous National Cultures. It is often suggested that the homogeneity and work ethic associated with Japanese culture have strongly contributed to the competitiveness of Japanese firms. However, management practices associated with Japanese culture are changing with continued industrial growth. The ideals of lifetime employment, a seniority-based wage system, and consensus decision making are undergoing significant changes.

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Japanese firms can no longer compete on the basis of production efficiencies alone. They are facing competition from other low cost producers in South Korea and Taiwan. This is forcing them to move into markets that are incompatible with traditional Japanese culture and educational systems. Although it may seem that the Japanese produce high technology products, their system is stressed by having to move from producing micro computers to making super computers. They are confronting similar problems in aerospace and communications where high creativity is required. They appear to be more effective in developing manufacturing processes for technology developed by others. However, Korea and Taiwan also have this expertise. Also, historical incentives no longer have the same motivational value for a new Japanese generation that is less willing to conform rigidly to traditional social norms. These trends are creating greater similarities between American and Japanese cultures.

Organizational attributes such as structure, rules, and procedures are similar among organizations in different national cultures, particularly in industrialized nations. Over the long term, these changes are likely to lessen cultural effects on competitiveness. Although some behavioral differences are likely to persist because of culture, firm and economic characteristics are likely to converge.⁹

Declining Resource Base. The belief that scarce resources are causing a decline in the growth rate of the global economy has created a more hostile environment. This is especially true for mature basic manufacturing industries such as steel, tire and rubber, auto, and home appliances. According to Michael Porter, "the environment in most of the developed world is one of relatively slow growth coupled with growing global competition."¹⁰ Increasing competition, however, has not necessarily placed the United States at a disadvantage. Instead, an increasingly competitive environment may have accelerated changes that were occurring because of other factors.

Strategic Competitiveness

Although the above factors affect competitiveness, they no longer explain as much of the variance in competitiveness as they may have in the past. The good news for U.S. managers is that the remaining strategic factors, most critical to relative competitiveness, are under their control. Strategic competitiveness relates to critical strategic decisions by which managers can affect firm competitiveness.

The most important source of the decline in strategic competitiveness is poor development of new product and process technologies relative to other countries. For instance, the U.S. remains the leader in central processing chips, but the Japanese have overtaken America in memory chips. While central processing

chips provide the main core of the computer, memory chips represent the bulk of sales.

Another indication of this problem is U.S. firms' absence in the consumer electronics market. In the late 1960s, there were as many as 18 American television sets manufacturers. Today, Zenith Electronics Corporation remains the only producer. Most of the top U.S. brands (e.g., RCA, G.E., Magnavox) are made by Japanese and European firms. Furthermore, the U.S. is expected to play little or no role in the development of high definition TV—a technological advance likened in significance to the development of jet propelled airplanes.

Multiple reasons exist for this erosion. First, U.S. industry has been slow to translate new technology into commercial success. Second, manufacturing is less emphasized in the U.S. relative to other industrialized countries. Third, fewer resources are being invested in research and development and technology transfer than by international competitors. For example, in the United States we spend approximately 1.8 percent of our GNP on R&D whereas West Germans spend 2.6 percent and the Japanese spend 2.8 percent.¹¹ Furthermore, U.S. firms spend half as much of their R&D budgets on process technologies compared to the Japanese. Japanese firms also spend twice as much on tooling and manufacturing equipment. This problem is exemplified in the global steel industry. While U.S. firms such as Inland Steel and USX have made considerable investments to modernize manufacturing processes, Nippon Steel Company spends about \$200 million annually on research—an amount larger than that spent on research by the entire U.S. steel industry.¹² It is not surprising that U.S. patent numbers are declining.¹³

A recent study showed that R&D intensity (company-sponsored research and development expenditures divided by sales) was the principal indicator of sales growth relative to international competitors for firms in fifteen global industries from 1960 to 1986.¹⁴

Compounding the problem, as competitive pressures increase, U.S. firms often reduce R&D expenditures and focus on short-term profits. These actions suggest that U.S. executives are unwilling to accept the long-term risks of innovation because of the uncertainty of commercial success. Most R&D investment in the United States is concentrated in large firms. For example, more than 85 percent of R&D expenditures are made in firms with over 10,000 employees.¹⁵ This makes the problem worse as large U.S. firms, in response to economic structure differences, historical trends, and hostile competition, are likely to reduce the resources allocated to R&D—the area that would aid recovery in the long term.

Sources of Declining Strategic Competitiveness

The principal reasons for U.S. managers' continued lack of commitment to innovation may include the absorption of managerial energy in mergers and acquisitions, higher levels of debt among U.S. firms, increasing size, increasing diversification, lack of investment in human capital, and weak or inappropriate corporate cultures. These problems suggest the need to restructure large diversified firms.

Managerial Energy Absorption in Mergers and Acquisitions. Acquisitive growth was so popular during the 1980s that the period was labelled the decade of "merger mania". Thousands of mergers and acquisitions were completed annually which required significant managerial attention and energy. Significant preparations and negotiations often precede the completion of acquisitions. Executives must review data, select acquisition targets, formulate a strategy, and

conduct negotiations, which all require significant time. Upon completion, executives of both acquiring and target firms must be heavily involved in integrating the target firm into the acquiring firm.

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At the same time, attention is diverted from other important issues. Managers in target firms continue daily operations but rarely make long-term commitments during the acquisition process unless they do so to avoid takeover (e.g., through increased debt). The merger process is often described as a period of suspended animation where long-term projects are neglected. As a result, acquisition strategies may produce short-term perspectives and risk aversion among managers. Managers may even use acquisitions as a substitute for innovation. A recent study which examined 191 major acquisitions completed between 1970 and 1988, showed that after acquisitions the firms invested less in R&D than their competition. The number of new patents also declined after acquisitions, suggesting a lower managerial commitment to innovation.¹⁶

When acquisitions are used for proper objectives, managed effectively (e.g., careful integration of the acquired firm), and not as a means to avoid risk, firms' effectiveness may be enhanced. Additionally, when acquisitions are used to restructure the firm (e.g., to move the firm into new growth markets, enhance efficiency, take advantage of core competencies and thus economics of scope, etc.), firm effectiveness may also improve.

Unfortunately, many of the 1970-1980 acquisitions were not for the purpose of restructuring. In fact, Robert Hayes, a prominent Harvard Business professor, suggested that many firms were only interested in acquiring and divesting business rather than growing them. "If it ain't broke, don't fix it and if it is broke, sell it" became an operating philosophy in the 1980s, according to Hayes.¹⁷

High Levels of Debt. Diversifying, acquisitions and leveraged buyouts have produced higher levels of debt. Cash flows that could be used in other ways (such as for R&D) must be used to service debt costs.

The use of leverage involves tradeoffs such as increased bankruptcy risk. While firms may diversify to lower business risk, the use of higher levels of debt increases financial risk. As a consequence, other risk-reducing measures are taken such as reducing investments that have long-term potential payoffs but also entail risk.

Innovation is risky; for example, new ventures often require approximately eight years before becoming profitable and adequate cash flows are usually not realized for four years thereafter.¹⁸ A recent study found a negative relationship between the amount of long-term debt and the amount of resources invested in R&D. Although lead times between new products are being reduced through computer-automated design, riskiness of new ventures is not decreasing. Therefore, increased leverage may produce greater risk aversion which, in turn, leads to a decreased willingness to invest in innovation.¹⁹

The use of debt can also have positive outcomes. For example, use of debt serves as discipline to managers to run more efficient operations. Because of the need to have appropriate cash flow to repay the debt and interest charges, managers must eliminate wasteful spending and create greater efficiency in firm operations. Furthermore, Michael Jensen, a noted Harvard financial economist, argued that, at the very least, shifting funds from wasteful practices to banks and bond holders ensures that resources are shifted from low-return firms (and possibly industries) to more productive ones.²⁰

Our argument, however, is that effective managers should not require debt for discipline and efficiency. They make strategic decisions to shift resources from poor investments to those with greater potential returns. In other words, they create strategic competitiveness instead of having so much debt that potential discretionary resources (e.g. cash flow) are shifted to others outside their firm for investment.

Increasing Size. Joseph Schumpeter, an economist who focused on innovation, hypothesized that large firms should be more innovative than smaller firms. He reasoned that large firms are more likely to have the resources to sustain an efficient R&D program than smaller firms. Researchers should be more productive because of a greater number of quality colleagues with whom to interact. Larger numbers of researchers also allow the development of greater specialization. The argument follows that larger firms should be better able to exploit innovative ideas. They have greater manufacturing capabilities, market power, and resources to move innovative ideas to the market. Large firms can also assume more risk because they usually have more slack resources than smaller firms.

Despite this logic, results of studies regarding the relationship between firm size and production of innovation are mixed. One study found that large firms spent almost 100 percent more on R&D per patent than smaller firms. But, small firms utilized more of their patents than large firms, suggesting effective exploitation of innovations. Another study found that maximum innovative output occurred at about the sixth largest firm in the petroleum and coal industries, suggesting an inverted U-shaped relationship between size and innovation.²² This suggests that organizations are flexible and responsive up to some threshold size but encounter inertia after that point. A final study found that large firms conduct a disproportionately low amount of risky research.²³

Why doesn't Schumpeter's logic hold? One explanation may be that as firms grow larger, more formal behavioral controls are frequently instituted to decentralize decision making authority. These bureaucratic controls produce more rigid and standardized managerial behavior which results in inertia. A recent study showed that larger firms had greater structural complexity and more formalization, both of which were negatively related to new product introductions.²⁵

Increasing Diversification. Not only have firms grown larger through acquisitive growth, but also, until the recent restructuring (downsizing) trend, many firms have grown more diversified. Studies on the relationship between diversification and innovation have produced confusing results.

After controlling for a set of economic variables including industry and firm size, two recent studies found R&D expenditures to be lower in more highly diversified firms than less diversified firms. These researchers concluded that differences in R&D spending were probably a result of differences in the control systems used.²⁵ In dominant business firms, corporate executives usually do not have large spans of control; they understand the nature of the businesses under the corporate umbrella (because most or all are highly related to the core business). With better strategic understanding, corporate executives can effectively evaluate the plans and intended actions of division managers (strategic control).

Unfortunately, higher levels of diversification make it increasingly difficult for corporate executives to use strategic controls. Their span of control is greater and, therefore, the volume of information received is increased and becomes overwhelming. As differences among divisions increases, executives often turn to financial controls (e.g., ROI targets) and have less ability to determine whether poor financial outcomes are a result of inappropriate strategy, poor implementation, or events beyond division manager control. Therefore, emphasis

on financial controls creates risk aversion and a bias on the part of divisional managers toward short-term efficiency. This condition results in lower investment in R&D and other innovation activities for highly diversified firms.

Another recent study found that emphasis on financial incentives for division managers was negatively related to investment in R&D. Greater levels of diversification and the associated control systems produced increased managerial risk aversion.²⁶ Therefore, increased diversification may reduce managerial commitment to innovation.

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Inadequate Investments in Human Capital. A special report in *Business Week* concluded that the long-term neglect to human capital in the U.S. was undermining the nation's economic future. For example, the Council on Competitiveness evaluated current industry training programs as inadequate and concluded that these inadequacies strongly contributed to low productivity growth in the U.S.²⁷ It was argued that firms have invested billions of dollars in capital equipment only to learn later that there was a shortage of skilled labor to operate it.²⁸ Although human resources holds great competitive potential for U.S. firms, short-term, risk-averse managerial behavior frequently leads to a reduction of investment in employees.

As debt costs rise, other expenditures are reduced. Investments in training and development often are the first to be pared.

In the early 1980s, Phillips Petroleum invested considerable resources in corporate training and development. However, the firm had to take on a lot of debt in fending off T. Boone Pickens' takeover attempt. Afterwards, despite earlier pronouncements regarding the importance of developing a new generation of managers, Phillips totally eliminated the corporate training and development function. This shortsightedness can be particularly severe as the need to implement new and more complex technologies becomes acute.

By laying off talented workers and reducing training during downturns, competitive advantages are lost. Current rigid organizational structures (emphasizing bureaucratic controls) do not allow full use or adequate development of human capital. Part of the reason for inadequate development and use of employees may relate to the evolution of organizational culture within firms.

Poor Corporate Culture. Kilman, Saxton, and Serpa refer to corporate culture as "the social energy that drives—or fails to drive—the organization."²⁹ Most of a firm's activities are guided by its culture. Managerial energy absorption, firm size, and diversification all affect corporate culture. For example, as managers become more absorbed with acquisitions, they have less time to manage the behavior of their employees. They delegate authority but also search for better means of controlling behavior by using formal rules and performance controls. Compensation may be based, for instance, on specific identifiable objective outcomes. This creates a more highly structured and less flexible culture.

Increasing size and diversification tend to reinforce these actions. As noted earlier, increasing size often leads to greater bureaucratic controls which produce more consistent behavior patterns but less creative expression. Financial controls implemented in highly diversified firms produce behavioral consistency and short-term, risk-averse behavior. Diversification also reduces cultural control (clan

control) because a multi-versus mono-cultural system evolves with increasing diversification. Thus, managerial energy absorption, large size and diversification tend to produce corporate cultures that lower managerial commitment to innovation.

Need to Restructure Large Diversified Firms

Strategic competitiveness problems are complex. Managerial energy absorption, high levels of debt, large size, high levels of diversification, lack of emphasis on human capital, and poor organizational culture are suggestive of these problems. They lower commitment to innovation and lead to lack of technology development which reduces a firm's ability to compete.

Although restructuring is a useful step toward regaining strategic control, managers must ensure entrepreneurial renewal as well.

Restructuring a corporation often improves its competitiveness by reducing size and diversification. It also creates an opportunity to focus on important implementation issues such as employee development and an effective corporate culture.

Restructuring to Regain Strategic Control

Curing U.S. firms' competitiveness problem will be no simple task. The severity and pervasiveness of the malaise will require nothing short of a major reversal of recent trends.

Poor global performance in the 1980s has led many firms to restructure.³⁰ Restructuring refers to rebuilding the strength of a firm through a strategic reorientation that produces changes in asset structure and resource allocation patterns. Restructuring efforts include downsizing and/or downscoping (reducing diversification) and divestments and acquisitions of new businesses (if the purpose is to develop and increase firm health by investing resources in those new businesses). Size, debt and, most importantly, diversification reduction, should assist managers as they attempt to regain control of their organizations.

Although restructuring is a useful step toward regaining strategic control, managers must ensure entrepreneurial renewal as well. In fact, another Harvard business professor, John Gabarro, argued that firms no longer want to employ old school turnaround artists who solved problems (e.g. debt-costs) only by selling off or closing down operations. They want a new generation manager who can cure sick businesses by building strength rather than bleeding them dry.³¹

Readjusting incentives to create longer managerial time horizons is one approach to restructuring although Hoskisson, Hitt, and Hill found that this approach alone does not fully reduce managerial risk aversion.³² A second approach is to reduce the focus on entrepreneurial risk taking by restructuring the business portfolio to a set of mature stable businesses where innovation is less necessary and use of financial controls is appropriate. This scenario, of course, does not resolve the strategic competitiveness problem. Finally downscoping by creating a narrower span of control and reasserting strategic control has been used by many highly diversified firms.

Downscoping

Selling off non-essential divisions unrelated to firms' major businesses allows managers to regain strategic control by emphasizing firm strengths and resources. Navistar management adeptly described this strategy: "We will grow in markets where we can create enough advantage to earn a good return for our shareowners. We will redeploy resources from markets where we cannot."³³ Downscoping also reduces the amount of information processing required by the CEOs enabling them to regain strategic control.

During the process of downscoping, companies may also be able to reduce leverage, which should free cash flows for use in R&D activities and human resource development programs. For example, one study found that firms generally increased R&D investment after downscoping.³⁴ The decrease in financial risk associated with debt reduction also may increase managers' willingness to accept the risks associated with innovative activities.

During the process of downscoping, companies may also be able to reduce leverage, which should free cash flows for use in R&D activities and human resource development programs.

Downsizing, however, may signal market retreat, possibly due to foreign competition. We believe that the emphasis in restructuring should be on *downscoping*, rather than *downsizing*. Recent examples of downscoping include Marriott's divestment of restaurants, American Brands' exit from foods, General Mills' withdrawal from retailing, and Allegis' sale of hotel and car rental businesses.

Richard Miller's actions at Wang, after he was hired as CEO in 1989, is an excellent example of effective restructuring. He, along with a special team of managers, identified assets that could be sold to raise about \$600 million in cash. In so doing, \$500 million in loans were paid off. However, in choosing assets for divestiture, he protected assets that could be developed and help the firm in the long term. For example, some managers recommended selling a small subsidiary that provides voice mail services to other larger firms. Miller rejected that idea because he felt that the firm would fit into Wang's long-term strategy of offering customers information in all forms—text data, image, or voice.³⁵

Development of Human Capital

When restructuring special emphasis should be placed on human resources. Employees may become concerned how restructuring affects their job and future. This concern is real since restructuring often includes a reduction in the number of middle managers. Firms must retain their best talent. This involves evaluating employee ability while reassuring top employees of their security and future opportunity with the firm. Decreasing the number of managers causes greater decentralization of authority and responsibility. Thus, employees must become technologically proficient and able to operate autonomously. Consequently, restructuring also creates a strong need for developing the firm's remaining employees.

Miller, Wang's CEO, believes that to develop star employees, the leader must provide the vision and, with this vision, bright people along with good ideas will surface.

Japanese firms have long experienced success in developing employees, in the United States and Japan. Contrary to what some experts anticipated, the Japanese have reproduced quality manufacturing ventures in this country. The extraordinary success of the Toyota-GM joint venture, New United Motor Manufacturing, Inc., is an example. This venture produced as many cars with approximately half the workers as did the previous GM plant in the same location. Toyota's introduction of "human capital" methods among a union (UAW) work force known for its poor work habits, directly challenges the idea that Japanese methods are culture bound. Johnson suggested that "advanced capitalism" emphasizes tenured employment, job rotation, on-the-job education, shallow hierarchies of authority, and worker internalization of the enterprise.³⁶

These are not the standard participative management techniques used by American businesses, which assume that the happy worker is the productive worker. Paul Gray, president of MIT, argued that U.S. firms must view employees as a resource to be maximized rather than a cost to be minimized. Miller, Wang's CEO, believes that to develop star employees, the leader must provide the vision and, with this vision, bright people along with good ideals will surface. For example, shortly after he became CEO, Miller delegated responsibility to a middle manager to analyze Wang's global computer pricing strategy. In three short weeks, this manager had completed his assignment. He analyzed global competitors and their pricing structures on six continents. Furthermore, he

identified problems and developed recommendations to solve them. For instance, he discovered service problems and recommended that a fax machine be installed in the CEO's office so that customers could immediately notify the CEO of service problems. Miller said the manager acted quickly and developed creative solutions. Miller stated, "In my book that's leadership."³⁷

Renewed Commitment to Innovation

Revitalized R&D efforts along with a clarification of the focus of research activities should be a part of the restructuring effort. While applied research is very important if a firm is to develop products with commercial value, it often must be preceded by basic research. In the last decade, little basic research has occurred in U.S. industry outside of that commissioned by the military. Because applied research with a base provided by basic research has a greater chance for success, basic and applied research should be balanced.

A proper balance between product and process research and development must also be reached. U.S. firms tend to emphasize *product* research while Japanese firms emphasize *process* research. Japanese firms have developed new ways of producing higher quality products while developing highly effective manufacturing processes. Their innovations have been systematic and incremental and have helped them produce higher quality products and thereby gain a competitive advantage in a number of industries.

U.S. firms that invest in product and process R&D soon realize the benefits. Several directors and top managers recommended to McKernan, CEO of Clark Equipment, to get out of the forklift market. Instead, McKernan spent \$100 million to redesign the product and its manufacturing process. In that year the firm lost \$60 million. However, afterwards sales began to escalate, Clark's stock value tripled, and earnings grew by 50 percent in 1989. In 1987, Quantum, a disk-drive manufacturer, was nearly driven out of the market by innovative competitors. As a result, the firm decided to drop its 5¼-inch disk drive business and invest in the 3½-inch disk drive. It had to develop and learn a completely new technology and, therefore, formed a joint venture with a subsidiary of Matsushita which helped Quantum revamp its manufacturing processes. Quantum engineers learned to redesign new products twenty times instead of two. In so doing, many manufacturing problems were prevented. Since that time, sales and profits have increased almost 400 percent.³⁸

Balance between basic, applied, process, and product research requires cooperation between multiple departments within the firm. Cooperation in the innovation process is facilitated by development of an effective organizational culture.

Cultivation of an Effective Corporate Culture

When AT&T restructured, as required by federal mandate, it also dramatically changed its culture. Because restructuring represents such a drastic organizational change, it is an appropriate time to change or develop a corporate culture that facilitates strategic competitiveness. Restructuring, which is usually induced by external pressure, creates an opportunity for top managers to blend strategic management with internal organizational change.

Although the field of organizational change traditionally has focused on human, individual, or group change through processes such as team building, restructuring affords the opportunity for system-wide strategic change.³⁹ Managers who have been successful in transforming a culture estimate that the process can take from six to fifteen years.⁴⁰ On the other hand, cultural transformations such as the rapid turnaround of Chrysler Corporation and General Electric a few years ago provide evidence that external organizational shocks can help speed up the process.

United Airlines has a successful corporate culture. In particular, it focuses on building a team culture among flight crews. In so doing, the team may prevent or correct mistakes that might be made by individual crew members. The 1982 Air Florida airplane crash in Washington D.C. and the 1978 Eastern Airlines crash outside of Portland were attributed to errors by individual crew members whereby the advice of other crew members was ignored. However, in the crash of United Flight 232 in Sioux City, 185 of the 296 people aboard survived. The remarkable survival rate was attributed to the incredible teamwork exhibited by the crew.⁴¹

The opportunity offered by restructuring should be used to build a more effective culture. Cultivation of an effective corporate culture includes developing an entrepreneurial spirit, fostering a long-term and global focus, and reemphasizing product quality.

Developing an Entrepreneurial Spiral. Much of the encouragement (or discouragement) to pursue entrepreneurial opportunities in large firms is based on the firm's culture. The pursuit of opportunity must be rewarded and the penalty for failure minimized. Implementing a policy that a proposed project cannot be blocked without approval by several levels of managers is an excellent example of this—quite the reverse of the normal procedure, where a project cannot begin without the approval of multiple layers of management. Internal corporate venturing departments can be established to develop new commercial products. New product champions should be identified, supported, and rewarded. Probably the best example of a firm known to have an entrepreneurial culture is 3M where many employees are given a certain percent (e.g., 20 percent) of their time to work on new ideas. The popular Post-it Note product was developed in this innovative environment.

Kerr and Slocum recommended managing corporate culture with reward systems. They maintain that culture represents a means of controlling employee behavior and attitude and rewards are a way to achieve control.⁴³ The reward system is a visible sign of the firm's values and beliefs and may include salaries, bonuses, promotions, or stock. If individual achievement and innovation are required, rewards must be based on performance. Expenditures to promote innovation might not be calculated against a managers' bonus (with some limit, of course). This approach could be in addition to or in place of "extra" rewards for successful innovations.

An entrepreneurial culture must promote diversity and individuality instead of conformity. It should promote risk-taking rather than risk-averse behavior and therefore it is imperative that rewards be based on long-term rather than short-term performance.

Promotion of a Long-Term and Global Focus. U.S. managers must set their sights on a global market. A recent report suggested that exports were helping many U.S. firms maintain profitability in the face of domestic economic problems. Furthermore, the report suggested that many U.S. firms must think globally to survive locally.⁴³

There is a global market for most basic products and, to expand, many U.S. firms must compete in international markets as well as at home. For example, the Pacific Rim provides major market opportunities for the United States. Asia is one of the hottest markets in the world for automobiles, telecommunications equipment, and airline seats. By the end of the 1990s the combined economies of countries in the Pacific Rim will be larger than the European common market and about equal to those of North America. U.S. business investments in Asia

have already paid major returns—31.2 percent in Singapore, 28.8 percent in Malaysia, 17.9 percent in South Korea, 23.6 percent in Hong Kong, 22.2 percent in Taiwan and 14.1 percent in Japan. This compares well to U.S. firms' cumulative foreign investment with an average 15.2 percent return.⁴⁴

Strategies must be developed in a framework designed to maximize performance in global markets. Providing rewards for international experience and education along with participation in international joint ventures are just a few ways to accomplish this goal. For example, one advantage of international joint ventures is that they allow U.S. managers to learn and develop skills that have provided foreign (e.g., Japanese) managers a competitive advantage.

U.S. managers must also focus on long-term strategies and break the cycle of short-term actions. This is not a simple task because it may require some systemic changes. First, executive incentive compensation should be based on long-term performance. Caution must be used, however. A focus on long-term incentives may only offset financial control problems. As shown in a recent study, the result may be no relationship (as opposed to a negative one) between long-term financial incentives and investment in R&D.⁴⁵ Thus, incentives should be based on the long-term performance of both the division and the firm and, to the extent possible, strategic actions (instead of financial outcomes). This requires careful analysis. Controls may have to be delegated to group managers (strategic business units) where strategic controls can be more effectively applied.

Focus on High Quality Products and Service. U.S. firms need to produce and market products comparable to the competition. High product quality must be emphasized. Increasing process R&D investment, while emphasizing the importance of quality can be helpful. Investments in human resource development can also help employees be more productive (efficient) and produce higher quality products.

To improve quality, U.S. firms must also be willing to invest capital in new plant and equipment and develop new manufacturing technologies. For example, the use of new process technologies (e.g., robotics) may replace routine and lower skilled jobs. Additionally, U.S. firms may form joint ventures with European and Japanese firms to learn how to produce higher quality products. However, as indicated earlier, this needs to be done while nurturing the workers; a pure investment strategy has proven unsuccessful.

Higher quality also often results from effective integration of functions in firms. For example, initial efforts in new products design that use input from down line functions in product production and distribution (e.g., manufacturing, testing, marketing, service) result in lower product costs and higher product quality. For a number of reasons, interfunctional integration is difficult to achieve; however, firms can improve product quality and resolve a number of other problems by achieving such integration. An effective corporate culture can promote interfunctional integration.⁴⁶

A Competitiveness Improvement Agenda

It is clear that U.S. firms have been losing the competitiveness battle to international competition. This loss of competitiveness is partially accounted for by economic structure and historical and cultural differences. However, these differences may have been exaggerated and their effects lessened over time. Therefore, as Exhibit 1 suggests, much of the current problem directly relates to factors under managers' control. Managers, distracted with merger and acquisition activities, have been neglecting important areas such as R&D and employee development. Compounding the problem, increases in leverage, size, and diversification have led to managerial risk avoidance and the increasing use

of financial controls, each of which has produced a reduction of innovative activities. Ineffective organizational cultures have reinforced these problems and produced organizational inertia.

Our primary message, however, is not pessimistic. We believe that U.S. managers can create more competitive firms and control their own fate. Competitive trends can be reversed through decisive strategic actions. Following are summaries of our recommendations for improving competitiveness:

- Restructure the firm to rebuild its competitive strength
 - Downscope (reduce diversification)
 - Divest problem businesses, make careful acquisitions (in growth markets) but use acquisitions strategy judiciously
 - Develop human capital (select and retain top talent; emphasize training and development; manage to maximize human resources)
 - Renew commitment to innovation (invest in product and process R&D; identify, nurture and reward product champions)
- Cultivate an effective corporate culture
 - Develop an entrepreneurial spirit (reward creative ideas; develop venture departments; allow free time to work on entrepreneurial efforts; build teamwork)
 - Promote long-term and global focus (emphasize long-term performance in executive incentive compensation; search for global market opportunities; seek international joint ventures)
 - Provide high quality products and services (invest in new plant and equipment to improve processes; invest in human capital; reward quality; promote interfunctional integration)

While this agenda is not a short-term solution, recent restructuring efforts by many U.S. firms signal that managers are aware not only of the symptoms, but also of a partial cure. There is much opportunity in the global marketplace and U.S. firms can seize it with effective executive action.

Endnotes

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