







**Phil Rosenzweig** is a professor of strategy and international business at IMD in Lausanne, Switzerland, and the director of the school's Executive MBA program.

# Robert S. McNamara

## And the Evolution of Modern Management

Lessons from one of the most controversial managers in modern history

*by Phil Rosenzweig*

**EVERY GENERATION OF MANAGERS** wrestles with questions about its purpose. In the 1950s and 1960s, to be an able manager was to do four things well: plan, organize, direct, and control. Leading business thinkers conceived of managers as rational actors who could solve complex problems through the power of clear analysis. That view shaped the developing profession, but many questions were left unanswered. Planning and directing were essential, yes, but toward what ends? Organizing and controlling, of course, but in whose interest?

By the 1980s and 1990s, one answer had come to dominate popular thinking: The purpose of management was to enrich a company's owners. Shareholder value creation had the advantage of being precisely and objectively measurable—and made CEOs like Roberto Goizueta, Sandy Weill, and Jack Welch legends. Yet as a managerial mission, the pursuit of financial wealth has proved to be unsatisfactory. In the past decade, as evidence that markets are far

from efficient has mounted and much of the wealth created has been wiped out, basic questions about management have resurfaced. Today the focus has shifted to how management should contribute to society, provide for environmental sustainability, and improve the lives of people at the bottom of the pyramid. The fundamental purpose of management is being debated at leading business schools, where students consider the merits of taking professional oaths that would commit them to pursue goals beyond financial performance.

For those who have chosen management as their livelihood, these are not academic questions. They speak to the ultimate question that confronts us all: Has my life's work been important? As we consider the various purposes to which managers' talents could be applied, and how their contributions may come to be judged, we may gain useful insights by examining the life of one man who grappled with these issues for more than 50 years.

The career of Robert S. McNamara spanned academia, private enterprise, government, and humanitarian service. He was a professor at Harvard Business School in the early 1940s; an executive at Ford Motor Company for 15 years, becoming its president in 1960; the secretary of defense for seven years under presidents Kennedy and Johnson; and the president of the World Bank for 13 years. In the eyes of many, of course, McNamara's accomplishments were overshadowed by the tragedy of Vietnam. When he died in 2009, at age 93, the *New York Times*' obituary headline described him simply as the "architect of a futile war." Because of his role in it, he tends to be caricatured as smart but not wise, obsessed with narrow quantitative measures but lacking in human understanding. The controversies surrounding Vietnam are complex and will endure, but it would be a mistake not to draw any other lessons from his remarkable career. Perhaps more than anyone else, Robert McNamara personified management in the 20th century. In his legacy we see the triumphs of modern management as well as its most troubling limitations.

### Analytical Whiz Kid

McNamara was born in San Francisco in 1916 and came of age during the Great Depression. As a youth

he witnessed labor unrest in local shipyards and massive unemployment. After high school he enrolled at the University of California, Berkeley, where he majored in economics because he felt it offered the most useful tools for addressing society's largest problems. From the outset he thought of management as a means of bringing positive change to the world, not as a means of financial gain for himself or a company's owners.

After graduating in 1937, McNamara entered Harvard Business School. According to Jeffrey Cruikshank's history of the school, this was a time when the field of management was on the cusp of great progress. One required course, Business Statistics, had begun to teach methods of quantitative decision making. Its professor, Edmund Learned, later recalled: "We sought to train our men for positions of responsibility that required statistical facts and analyses for diagnosis or action purposes. We wanted men to develop judgment in the use of figures [and] contribute to an intelligent solution of the problem under discussion." HBS's accounting courses had been moving in a similar direction. In 1936, Professor Ross Walker offered a course called Aspects of Budgetary Control, which focused on practical aspects of planning and decision making. The curriculum

## Robert McNamara's Legacy

Though his name will ever be linked to the tragedy of the Vietnam War, Robert S. McNamara was regarded as a brilliant manager in the decades before and after it—in both public and private sector roles. The phases of his career, and how he approached his work, map broadly to management's evolution as a discipline.



**1933–37** At the University of California, Berkeley, majors in economics, seeing its promise to address society's greatest challenges.

**1943–46** Serves in the army on an elite team, Statistical Control, that applies quantitative analysis to the war effort.



**1960** Is named the first nonfamily president of Ford.

## Data and Decision Making

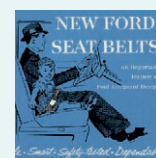
### Formative Frameworks

**1937–39** Attends Harvard Business School, which had begun to focus on quantitative decision making.

**1940–43** Joins Harvard Business School as its youngest assistant professor.



**1946** Joins Ford as part of a team from Statistical Control, which becomes known as the Whiz Kids. Gains renown for achieving improvements with modern management control systems.



**1956** As an advocate of public safety, gets Ford to introduce the first seat belts in passenger cars.

## Idea in Brief

**Robert S. McNamara, in turn revered and reviled, may yet be redeemed as an icon of management. His career was a journey toward managerial wisdom and mirrors the very evolution of management as a discipline.**

He began as an idealist, seeking the training that would help him address society's most pressing problems.

Embracing the newest tools for problem solving, he gained renown for his analytical prowess at Ford Motor Company.

As an architect of the Vietnam War, he applied a hyperrational approach to a mission he later saw as fundamentally misunderstood.

Chastened by the debacle, he recognized the limits of data and came to appreciate the intangible and the irrational in human affairs.

Reflective in old age, he embraced the importance of empathy—and remained, as ever, an idealist.

covered the techniques of modern professional management: cost accounting, control systems, management information systems, and decision science. McNamara was an eager and receptive student of the new methods. After earning his master's of business administration, in 1939, he returned to San Francisco for a year, before accepting an offer to join Harvard Business School as a faculty member. At age 24, he became its youngest assistant professor.

During World War II, McNamara taught in the Army Air Forces' statistical school and then took unpaid leave from Harvard to serve in the Army's Department of Statistical Control. Aircraft were playing an increasingly important role in warfare, but no

system had been developed to track planes and their crews, monitor spare parts, or allocate fuel. The complexity of the modern war machine had surpassed the ability to manage it. McNamara helped bring the rigor of statistical analysis to the war effort, improving logistical efficiency and mission planning. His biographer Deborah Shapley found evidence of his influence in an army report from the era: "Much of the success of the system has been due to the Harvard method which stresses the 'meaning of figures'—the power to analyze something for oneself."

In 1946, rather than returning to academia, McNamara became part of an elite team from Statistical Control that joined Ford. They were nicknamed the



**1961** Is appointed secretary of defense by President Kennedy. Starts to apply principles of modern management to the Pentagon, improving efficiency and instituting systems analysis as a basis for making decisions.

**1967** Creates the Vietnam Study Task Force to write an analysis of the Vietnam War, later known as the Pentagon Papers.



**1968–1981** Serves as the president of the World Bank. Devotes resources to economic development in poor countries.

## Center of Power

1960 | 1970 | 1980 |

**1963** Works to reduce the threat of nuclear war, drafting the Limited Test Ban Treaty.



**1964–66** As President Johnson's secretary of defense, guides American policy in Vietnam, leading to the escalation of bombing and the introduction of U.S. ground forces.

## Humanity and Humility

**1981 ON** After retirement from the World Bank, writes extensively about economic development and about measures to avoid nuclear war.



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## Barry Goldwater called McNamara “one of the best secretaries ever, an IBM machine with legs.”

Whiz Kids. The firm’s young president, Henry Ford II, charged them with overhauling the once-proud company, now in disarray and losing money. McNamara’s star rose as he brought the discipline of rational analysis to Ford’s sprawling bureaucracy, emphasizing facts and figures. Austere and formal, with rimless glasses and neatly slicked-back hair, McNamara projected a no-nonsense air. The financial turnaround at Ford was remarkable, yet he did not focus only on shareholder returns. He went about his work with an acute sense of social responsibility. Unlike most automobile executives, he was an early champion of passenger safety. He later recalled, “The prevailing idea in the auto industry was that if you talked about safety, you’d scare the public.” Under McNamara’s leadership, Ford’s 1956 models featured padded instrument panels and safer steering wheels, and were the first passenger cars with seat belts. Rivals scoffed: “McNamara sells safety, Chevrolet sells cars.” Yet he persisted, guided by his sense of responsibility to the public.

### The Portable Professional

Selected by President John F. Kennedy to serve as secretary of defense, McNamara arrived in Washington in January 1961. He epitomized the confidence of the American Century: He was a technocrat free of ideological blinders, focusing on the facts and deducing the truth from statistics. *BusinessWeek* described him as a “prize specimen of a remarkable breed in U.S. industry—the trained specialist in the science of business management who is also a generalist moving easily from one technical area to another.” Once again, McNamara’s sense of public service was strong. He had been among the highest-paid executives in the world, earning \$410,000 a year in salary and bonuses at Ford, and gave it up to become a cabinet secretary with a salary of \$25,000. More significantly, to avoid even the appearance of a conflict of interest, he chose not to exercise options on 30,000 shares of Ford stock, valued at \$47 a share.

At the Pentagon, McNamara applied his usual rigorous approach to the management of the vast military establishment. Until then, each branch of the service had had its own budget and pushed its

preferred weapons systems. The result was massive inefficiency and questionable effectiveness. McNamara set out to optimize the nation’s arsenal, to provide the best military capability in the most efficient manner, subordinating the parochial interests of the individual services. He also overhauled U.S. military strategy, replacing the potentially catastrophic doctrine of massive retaliation with a doctrine of flexible response, which insisted on proportionality and sought to avert escalation. Congress was highly impressed. Republican Barry Goldwater called McNamara “one of the best secretaries ever, an IBM machine with legs.”

Even during the most difficult days of the Vietnam War—which would eventually overwhelm him and President Lyndon Johnson—McNamara did not lose sight of the goal that had inspired him as a youth: contributing to the greater good. In a remarkable 1967 speech at Millsaps College, in Mississippi, he offered a stirring vision of management. (See the sidebar “Management Is the Most Creative of Arts.”) He spoke, too, about the growing gap between rich and poor nations. National security was inextricably linked to global security, and global security to closing that gap. As the Nobel Prize–winning economist Amartya Sen would later observe, economic development is freedom—and conversely, without it, there is no freedom. After leaving the Pentagon and becoming president of the World Bank, a post he held from 1968 to 1981, McNamara turned his energies toward expanding funding for development. He shifted the bank’s focus toward poverty reduction, dramatically increasing the financial support for projects in health, nutrition, and education. He relied, once again, on a fact-driven approach—measuring well-being and funneling loans to the most effective development programs.

By the 1980s, McNamara’s star had fallen, and not just because of his role in the Vietnam debacle. American business seemed to have lost its way, and the management methods he exemplified were being questioned. In their landmark 1980 *Harvard Business Review* article, “Managing Our Way to Economic Decline,” Robert H. Hayes and William J. Abernathy blamed slumping U.S. fortunes on the rise of professional managers. They charged: “What has developed, in the business community as in academia, is a preoccupation with a false and shallow concept of the professional manager, a ‘pseudoprofessional’ really—an individual having no special expertise in any particular industry or technology who neverthe-



Lyndon Johnson greatly admired McNamara and relied heavily on his counsel. Here, the two men are shown at McNamara’s retirement ceremony in 1968.



# “Management Is the Most Creative of Arts”

**In a 1967 convocation address at Millsaps College, in Jackson, Mississippi, Secretary of Defense McNamara set out his vision of the role of management and its importance in our world:**

Management is, in the end, the most creative of all the arts—for its medium is human talent itself.

What—in the end—is management’s most fundamental task? It is to deal with change.

Management is the gate through which social, political, economic, technological change—indeed change in every dimension—is rationally and effectively spread through society.

Some critics, today, keep worrying that our democratic, free societies are becoming overmanaged. The real truth is precisely the opposite. As paradoxical as it may sound, the real threat to democracy comes from undermanagement, not from overmanagement.

To undermanage reality is not to keep it free. It is simply to let some force other than reason shape reality. That force may be unbridled emotion; it

may be greed; it may be aggressiveness; it may be hatred; it may be ignorance; it may be inertia; it may be anything other than reason.

But whatever it is, if it is not reason that rules man, then man falls short of his potential....

[R]ational decision making depends on having a full range of rational options from which to choose. Successful management organizes the enterprise so that process can best take place. It is a mechanism whereby free men can most efficiently exercise their reason, initiative, creativity, and personal responsibility. It is the adventurous and immensely self-satisfying task of an efficient organization to formulate and analyze those options.

It is true enough that not every conceivable complex human situation can be fully reduced to lines on a graph, or



to percentage points on a chart, or to figures on a balance sheet. But all reality can be reasoned about. And not to quantify what can be quantified is only to be content with something less than the full range of reason....

But to argue that some phenomena transcend precise measurement—which is true enough—is no excuse for neglecting the arduous task of carefully analyzing what can be measured. A computer does not substitute for judgment any

more than a pencil substitutes for literacy. But writing ability without a pencil is no particular advantage.

Modern, creative management of huge, complex phenomena is impossible without both the technical equipment and technical skills which the advance of human knowledge has brought us.

less can step into an unfamiliar company and run it successfully through strict application of financial controls, portfolio concepts, and a market-driven strategy.”

Yet it was precisely the ability to apply managerial logic that had allowed McNamara to achieve improvements that insiders could not, or would not, produce. At Ford it took someone from outside the auto industry to provide analytical clarity as well as to focus on passenger safety. At the Department of Defense, it took an outsider to bring coherence to the management of the American military establishment, subordinating the interests of each branch to the overall purposes of the nation. McNamara’s skills were precisely what had been needed in sprawling organizations staffed by insiders.

Though it was easy to condemn the shortsightedness of professional management for the slump, the truth was more complex. America’s rise to lead-

ership in the first place had been due in large part to the success of modern management. To blame management for the nation’s failure to maintain the lead reflects a misunderstanding of the ebbs and flows of relative performance, as countries improve and gaps narrow. Furthermore, U.S. carmakers might have fared better against foreign competition from efficient companies with economical cars if McNamara’s views had prevailed. When he’d left for Washington, his plans for the Cardinal—an inexpensive car to be built at lower-cost facilities abroad—were scrapped.

## Focused to a Fault

Whether at Ford or in the military, in business or pursuing humanitarian objectives, McNamara’s guiding logic remained the same: What are the goals? What constraints do we face, whether in manpower or material resources? What’s the most efficient way



## What the Whiz Kids Missed The Later Breakthroughs

**After the heyday of Robert McNamara, management thinking began to reflect a broader understanding of human behavior. Some of the major advances below were recognized explicitly by McNamara in his later years.**

### Bounded rationality

Moving beyond the prevailing views of the 1950s and 1960s, we now recognize that people possess what Nobel Prize-winning economist Herbert Simon called “bounded rationality.” Not only are decision makers limited by the information they have and by the time available for analysis, but they are also limited by their cognitive abilities. Since the 1970s remarkable research has taken place in behavioral decision theory, with economists such as Richard Thaler and psychologists Daniel Kahneman and Amos Tversky showing how human judgment repeatedly leads to decisions that differ from those predicted by the tenets of rationality.

### Escalation of commitment

Organizational processes sometimes inadvertently steer people into making bad decisions. As described by University of California, Berkeley, professor Barry M. Staw, the escalation of commitment has an insidious logic: Each additional step seems to impose only a small additional cost but holds out the promise of victory, so people keep following the process, even though it often leads to greater, sometimes catastrophic, losses.

### Emotional intelligence

The importance of human relations in management, widely embraced in the 1930s and 1940s, was eclipsed during the postwar years by the rising emphasis on rational, technical analysis. Today terms like “emotional intelligence,” popularized by Daniel Goleman, signal the importance in management of soft skills as well as hard skills, of empathy as well as cold logic.

### The wisdom of crowds

Typical of his era, McNamara was an advocate of central decision making: “I always believed that the more important the issue, the fewer people should be involved in the decision,” he told his biographer Deborah Shapley. Today faith in the expertise of a small elite is balanced by the recognition of settings where the many know more than the few. GE’s legendary Work-Out Program was just one example of the power of broad involvement and demonstrated that organizations can capture the knowledge of numerous employees while increasing their commitment.

### Disruptive innovation

The research of Harvard Business School professor Clayton Christensen has shown that incumbent firms often fail precisely because they are well managed—they focus on today’s primary customers but may overlook uncertain prospects in peripheral markets. Yet as low-probability segments grow, they may displace incumbents. An emphasis on efficiency is not enough; it’s also vital to focus on innovation and place large bets even if they have uncertain returns.

### Dispersed networks

The preference for large-scale initiatives is being challenged by a belief in local and grassroots efforts. In economic development, where the record of big projects has been disappointing, small distributed efforts, such as the microloans pioneered by Grameen Bank, are getting more attention. At companies, too, commitments to giant initiatives have been balanced by a portfolio approach, in which firms place numerous small bets and then select some for further investment.

to allocate resources to achieve our objectives? In filmmaker Errol Morris’s Academy Award-winning documentary *The Fog of War*, McNamara summarized his approach with two principles: “Maximize efficiency” and “Get the data.”

Yet McNamara’s great strength had a dark side, which was exposed when the American involvement in Vietnam escalated. The single-minded emphasis on rational analysis based on quantifiable data led to grave errors. The problem was, data that were hard to quantify tended to be overlooked, and there was no way to measure intangibles like motivation, hope, resentment, or courage. Much later, McNamara understood the error: “Uncertain how to evaluate results in a war without battle lines, the military tried to gauge its progress with quantitative measurements,” he wrote in his 1995 memoir, *In Retrospect*. “We failed then—as we have since—to recognize the limitations of modern, high-technology military equipment, forces, and doctrines in confronting highly unconventional, highly motivated people’s movements.”

Equally serious was a failure to insist that data be impartial. Much of the data about Vietnam were flawed from the start. This was no factory floor of an automobile plant, where inventory was housed under a single roof and could be counted with precision. The Pentagon depended on sources whose information could not be verified and was in fact biased. Many officers in the South Vietnamese army reported what they thought the Americans wanted to hear, and the Americans in turn engaged in wishful thinking, providing analyses that were overly optimistic. At first, being likened to a computer was meant as a compliment; later, it became a criticism. In the wake of Vietnam, McNamara was derided for his coldness and scorned as one of the so-called best and brightest who had led the country into a quagmire through arrogance.

Yet in this dark episode, too, the career of Robert McNamara lets us appreciate how management thinking has taken important steps forward. We know today that people are not the rational creatures suggested by conventional economic theory but exhibit systematic biases of judgment. We know, as well, that organizational processes have their own dynamics—such as the escalation of a commitment to a losing course of action, and the tendency to silence dissenting views—that can lead to flawed decisions. (See the sidebar “What the Whiz Kids Missed.”)

## Reflection and the Search for Wisdom

The career of Robert McNamara offers more than an overview of modern management and its successes and limitations. It also illustrates that managers have the capacity for reflection and the ability to gain wisdom. In McNamara's case, the need for introspection and insight was particularly acute. The historian Margaret MacMillan has written that "McNamara spent much of his life trying to come to terms with what went wrong with the American war in Vietnam." He sought to understand the sources of errors, hoping to square what he earnestly believed were good intentions with the massive waste and tragic loss.

When, after many years of silence about Vietnam, McNamara published his memoirs, he admitted: "We were wrong, terribly wrong." Many people, their lives scarred by the trauma of Vietnam, found such a statement too little, too late. Yet McNamara had insisted that the subtitle to *In Retrospect* be "The Tragedy and Lessons of Vietnam" because he believed that tragedies could be avoided if lessons were learned. In fact, the willingness to question oneself and learn from experience may be Robert McNamara's greatest legacy as a manager. At 85, he told Errol Morris, "I'm at an age where I can look back and derive some conclusions about my actions. My rule has been: Try to learn. Try to understand what happened. Develop the lessons and pass them on."

That quest guided McNamara's later years. He traveled to Cuba and met with Fidel Castro, to understand more fully the 1962 missile crisis and find ways of avoiding future nuclear confrontations. He visited Vietnam and met with Vo Nguyen Giap, commander of the North Vietnamese forces, to discover where things had gone awry in that conflict. One key insight: that it was crucial to empathize with one's enemies, to attempt to see the world as they did. He concluded that the Cuban Missile Crisis had been resolved peacefully because U.S. diplomats were able to understand Premier Khrushchev's thinking. But in the case of Vietnam, he admitted, the adversary's motivations and priorities were misunderstood. McNamara recalled: "We saw Vietnam as an element of the Cold War, not what they saw it as, a civil war." It was a tragic error that "reflected our profound ignorance of the history, culture, and politics of the people in the area and the personalities and habits of their leaders."

Yet it would be misleading to suggest that McNamara had abandoned the belief in rational analysis. Indeed, the greatest challenges we face today—from



global warming, to water pollution, to health care, to economic development—clearly demand the power of logical analysis in service of human ends. At organizations as disparate as the Centers for Disease Control and the Bill & Melinda Gates Foundation, idealism and rational analysis are not at cross-purposes at all. In a 1995 interview, McNamara returned to this theme: "I don't believe there's a contradiction between a soft heart and hard head. Action should be founded on contemplation."

**IT'S TEMPTING** to think of today's problems as qualitatively different from those that confronted past generations. Surely, the threats to our environment are greater than ever, the pressures of globalization are more intense, and the technologies we use were unimagined even a few years ago. Yet many of the broader questions about the purpose and aims of management remain the same, and managers today confront many of the same dilemmas as their forebears did.

In 2005, months before his 89th birthday, McNamara returned to Harvard Business School and spoke with students on the subject of decision making. Among the lessons he stressed: That for all its power, rationality alone will not save us. That humans may be well-intentioned but are not all-knowing. That we must seek to empathize with our enemies, rather than demonize them, not only to understand them but also to probe whether our assumptions are correct.

A man often accused of lacking empathy urged us to empathize with our adversaries. A man who prided himself on rationality concluded that humanity cannot be saved by rationality alone—for none of us makes decisions in a completely rational manner—and that systems must therefore be made resistant to the irrationality in each of us. The final measure of a manager, more than amassing wealth or seeking to follow an oath, may be the willingness to examine one's own actions and seek a measure of wisdom. ▀

Late in life McNamara met his wartime adversary, retired Vietnamese military commander General Vo Nguyen Giap, at a symposium that examined the "missed opportunities" to avoid the war between the U.S. and Vietnam. McNamara came to believe that the U.S. had erred by failing to empathize with the Vietnamese and misconstruing their motivations.



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