

W. EDWARDS  
DEMING



## THE NEW ECONOMICS

FOR INDUSTRY, GOVERNMENT, EDUCATION

Second Edition

# Book The New Economics

## For Industry, Government, Education

W. Edwards Deming  
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## Recommendation

Critique W. Edwards Deming's work at your peril. After all, he probably set whatever standard you're using. This volume – revised by the author before his death in 1993 and partially based on his 1950s work with the Japanese – may strike the contemporary reader as a curious mixture of seminal process thinking and idiosyncratic ruminations on education. Portions read like an artifact of the early 1990s, but in this regard, however, his volume offers a unique perspective on a turning point in American economic history: the shift to the knowledge-based economy. Deming's volume is suited to any serious student of management thought, and all human resources professionals should familiarize themselves with his work, which set the foundations for many of the transformations now underway in the corporate world.

## Take-Aways

- The U.S. economy declined for decades after the introduction of Japanese goods in 1955.
- Accepting that North America was no longer competitive in the mass manufacture of low-cost items was the key to overcoming this decline.
- Economic success depends upon using knowledge to offer specialized products and services.
- Most quality initiatives fail because top management delegates its responsibility for setting standards.
- The plan-do-study-act (PDSA) cycle is critical to process improvements.
- A company that is completely free of defects can fail if it can't anticipate the needs of its customers.
- The knowledge needed to transform a system must come from outside the system.
- Managers should coach and counsel, not judge.
- A good manager understands how to motivate each employee.
- Managers should abolish all employee rankings and focus on cooperation, not competition.
- Schools in the U.S. will not improve until the grading system is abolished.

# Summary

## Is America a Lousy Trader?

If you were grading the United States on its balance of trade, the grade would be closer to “F” than “A.” In 1910, the United States made fully one-half of the entire manufactured products in the world. North America emerged into the post-World War II era as the only part of the industrialized world whose manufacturing capacity was intact. Now it has been in an economic decline for three decades. Japanese goods started to enter around 1955 and the domestic preference for imported goods gradually grew. Imports of agricultural products have outpaced our exports. What is the cure for this slide in manufacturing? North America must accept that it no longer excels in large volume, low-cost manufacturing. It must elevate its economy based on knowledge, which will translate into specialized products and services. The challenge is educational; it must develop a culture that values learning.

## What Business Are You In?

To succeed in your business, you must be able to define it. Are you in the customer-satisfaction business? Certainly, it is good to have loyal, satisfied customers. It is important to keep in mind, however, that the customer expects only what the producer has led him to expect. The customer is a quick learner, comparing one product with another. Try to anticipate the needs of your customers, innovate and exceed their expectations.

“Most people imagine that the present style of management has always existed, and is a fixture. Actually, it is a modern invention - a prison created by the way in which people interact.”

Actually, it is not enough to ask, “What business are you in?” Today, you must constantly ask, “What new product or service would give greater benefit to the customers?” It is important to understand that having zero defects does not insure a company’s success. The litany of efforts to improve quality is virtually endless - automation, merit awards, accountability, management by objective, management by results, statistical quality control, quality control offices, incentive pay programs and so forth. However, these panaceas duck the essential responsibility of management. The company president who gives plant managers authority, only to see quality dip, and the plant managers who have no input into product design, demonstrate that quality programs don’t work when management delegates responsibility to people who are helpless to define quality and push for innovation.

## The Genius of Systems

A system is simply a network of interdependent parts that works to accomplish a common aim. Without an objective, there can be no system - and the goal must be clear to everyone involved. Management’s job is to direct the components of the system so it can attain its aim. The leader’s role is to sponsor and encourage the promulgation of the shared objective. Management must recognize and manage the interdependence among the different parts of a company. Anyone who studied the operational effectiveness of the U.S. air transportation system, or the public education system, or the traffic system understands the havoc wreaked when the system breaks down and no longer functions as a whole.

## Profound Knowledge

The U.S.’s prevailing style of management must undergo a radical transformation, which must begin with an understanding of profound knowledge. It is called “profound” because the understanding will transform the individuals’ perceptions and the meaning of their lives. Once transformed, managers will become effective role models for others, will be good listeners and teachers and will help people evolve toward more effective working relationships. Profound knowledge must always come from outside the system itself. Transformation requires an outside view of the organization’s activities. Profound knowledge has four parts:

1. Appreciation for system - To understand the system you must understand the nature of interdependence: the greater the interdependence, the greater the need for communication and cooperation. Management’s failure to comprehend interdependence is why management by objective (MBO) has failed in so many cases. One division will achieve its goals at the cost of another division. Consider the example of an orchestra, for example. If the horn section were to maximize its performance at the expense of the percussion team, the symphony would suffer as a result.

2. Knowledge of variation - Variation is an inevitable part of life. Performance will vary up and down over time. A process can be accepted as stable once its output has been brought into a state of statistical control, which is to say the output over time can be reasonably predicted, despite variations. The variation becomes predictable; otherwise, the performance is unpredictable. Management makes two classic errors in its attempts to improve results - overreacting to an outcome as if it came from a special cause (market changes, new technologies) when it actually stemmed from normal variation; and reacting to an outcome as if it came from common variation (seasonal variation, efficiency variation) when actually it came from a special cause, such as a shift in the market.
3. Knowledge theory - Management is actually prediction. The simplest plan ("Let's drive to work after breakfast") requires prediction (the engine will start, the roads will be useable). Any prediction you make could be in error. The theory simply extends the application of knowledge to a new arena. If the theory does not continue to hold, it is time to revise the theory. It is important to note that knowledge comes from theory, and information is not knowledge.
4. Psychology - Through the science of psychology, you can learn to understand people and their interactions, including the interactions between customer and supplier, teacher and pupil, manager and employees. Knowledge of psychology, for example, will help you carry out a manager's most important task: understanding what matters to subordinates.

"Unnecessary paperwork is a serious loss. A lot of it originates in management's supposition that the cure for repetition of a mistake or fraud is more audit, more inspection."

A leader's job is to transform his or her organization. To achieve this, leaders must inspire others to share and execute their visions. Transformational management, which is based on profound knowledge, is necessary to combat the forces that are destroying our institutions, including the merit system, incentive pay and numerical goals that are not attached to productive methods of achieving them. Today's leaders must guide people to transform the system that pits individual against individual. Leaders must emphasize cooperation rather than competition, which is the root of humiliation, fear and defensiveness.

## **On the Management of People**

People in the workforce live in a prison created by the prevailing style of managing human interactions. These interactions are analyzed and graded, creating winners and losers. Instead, managers should focus on the overall system and how people can work together to maximize performance. Throw old theories and practices overboard. Exorcise the idea that competition is necessary. Once you understand that the goal of each interaction should be cooperation, not competition, how do you imbue your organization with this new philosophy?

"All the qualities that have been traditionally and erroneously applied to competition actually apply better to cooperation. Cooperation builds character, is basic to human nature, and makes learning more enjoyable and productive."

The reward system now in broad use squeezes the intrinsic motivation, self-esteem and dignity out of people. It creates fear and makes people seek extrinsic motivation rather than internal satisfaction. Management today is stable, but stuck in old ruts. The path to its transformation requires the application of profound knowledge from outside of the system.

"The present style of management is the biggest producer of waste, causing huge losses whose magnitudes cannot be evaluated, cannot be measured."

Learning about today's management style will not suffice. For example, a company had two goals: 1) Design reward systems that recognize superior performance; and 2) Create a stimulating and enjoyable work environment that would attract talented people. The company's management seemed completely unaware that these two goals are mutually exclusive. Rather than judging and ranking people, and putting them into slots marked "outstanding" or "unsatisfactory," your company should focus on optimizing the productivity of the system, so that everyone is a winner.

## **The Post-Transformation Manager**

What will the new post-transformation manager be like? The new manager will:

- Understand and teach the meaning and goals of the system.
- Help people see themselves as important components within the system, and will emphasize working cooperatively to optimize

the organization.

- Understand that people differ.
- Create interest and challenge for each worker to make the most of each employee's education, skills and background, rather than ranking people against each other.
- Continue to learn and encourage ongoing training and education for others.
- Serve as a counsel and coach, rather than a judge.
- Ceaselessly study results to improve his or her personal performance as a manager.
- Look for help outside the system.
- Nurture trust and build an environment that encourages innovation and freedom.
- Listen carefully.
- Understand the benefits of cooperation and the costs of competition.
- Hold an informal, unhurried, spontaneous annual conversation with each employee.

## The Plan-Do-Study-Act Cycle

The Plan-Do-Study-Act (PDSA) approach provides a flow diagram for learning. You can use this method to improve any product or process. The PDSA cycle gives you a roadmap for moving forward and methodically introducing improvements and modifications to any system. The steps involved are:

- P is for plan - Begin with an idea that you believe might improve a process. You plan to test the concept in order to achieve an improvement.
- D is for do - Carry out the change or test, preferably on a small scale first.
- S is for study - Examine the results. Do they correspond with your expectations? If not, try to analyze what went wrong. Decide whether your plan merits further investigation, or whether it's time to test a new hypothesis altogether.
- A is for act - Either adopt the change, abandon the change or run through the PDSA cycle again, possibly under different conditions.

## What Should A Business School Teach?

If you accept the premise that current business schools perpetuate short-term thinking and over-emphasize competition at the expense of systemic improvements based on human interaction and cooperation, the question naturally arises how to change all of that? Theoretically, a business school should prepare students to lead the transformation toward more enlightened management by using profound knowledge.

“Everyone must understand the danger and loss to the whole organization from a team that seeks to become a selfish, independent, profit center.”

Students in a school of business should also study economics, statistical theory and at least two years each of science and language. Unfortunately, no notable improvement in U.S. education will come about until our schools abolish the grading system. Similarly, merit ratings for teachers also should be abolished, schools should not be compared on the basis of test scores and special rewards for athletic and other achievements should be abolished.

“The greater the interdependence between components, the greater will be the need for communication and cooperation between them.”

As the U.S. economy moves more toward providing specialty products and services, and away from mass production and automation, improvement in our educational system becomes more vital than ever. Just as joy stems from learning rather than from what is learned, job satisfaction comes not from the finished product, but from each person's contribution to the optimization of a system in which every participant is a winner.

## About the Author

**W. Edwards Deming's** consulting practice spanned more than 40 years, including major corporations in virtually every industry.

Deming is particularly well known for his work in Japan, where he preached the gospel of improving process and quality. The Japanese proved apt students, much to Detroit's regret. Deming led the sweeping revolution in quality that helped the U.S. stave off competition abroad and, in 1987, was awarded the National Medal of Technology by President Ronald Reagan.

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