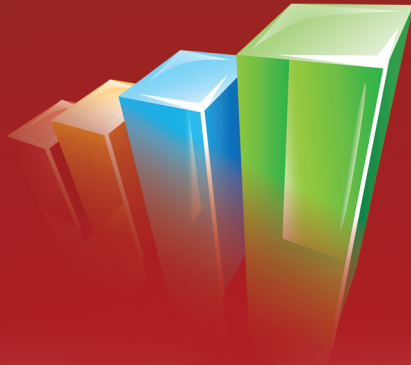


SECOND EDITION



GEMBA KAIZEN

A COMMONSENSE APPROACH TO A
CONTINUOUS IMPROVEMENT STRATEGY

Masaaki Imai



CHAPTER ONE

An Introduction to *Kaizen*

Since 1986 when the book *Kaizen: The Key to Japan's Competitive Success* was published, the term *kaizen* has come to be accepted as one of the key concepts of management. In the first decade of the twenty-first century as the Toyota Motor Company surpassed General Motors to become the top automotive manufacturer in the world, awareness of the vital difference played by *kaizen* in Toyota's success also increased.

Today, organizations worldwide from manufacturers, to hospitals, to banks, to software developers, to governments are making a difference by adopting *kaizen* philosophies, mind-sets, and methodologies. Even though the names of these strategies may change over the decades from continuous quality improvement and total quality management, to just-in-time and operational excellence, to six sigma and lean manufacturing, the most successful of these strategies are customer-focused, *gemba*-oriented, and *kaizen*-driven.

The 1993 edition of the *New Shorter Oxford English Dictionary* recognized the word *kaizen** as an English word. The dictionary defines *kaizen* as “continuous improvement of working practices, personal efficiency, etc., as a business philosophy.” Readers who are unfamiliar with *kaizen* may find it helpful to begin with a brief summary of the concepts of *kaizen*. For those who are already familiar with *kaizen*, this chapter may serve as a review.

In Japanese, *kaizen* means “continuous improvement.” The word implies improvement that involves everyone—both managers and workers—and entails relatively little expense. The *kaizen* philosophy assumes that our way

*Kaizen Institute AG has exclusive right to the use of *kaizen*®, as well as *gemba kaizen*®, as trademarks registered in major countries of the world.

of life—be it our working life, our social life, or our home life—should focus on constant improvement efforts. This concept is so natural and obvious to many Japanese that they don't even realize they possess it! In my opinion, *kaizen* has contributed greatly to Japan's competitive success.

Although improvements under *kaizen* are small and incremental, the *kaizen* process brings about dramatic results over time. The *kaizen* concept explains why companies cannot remain static for long in Japan. Western management, meanwhile, worships innovation: major changes in the wake of technological breakthroughs and the latest management concepts or production techniques. Innovation is dramatic, a real attention-getter. *Kaizen*, on the other hand, is often undramatic and subtle. But innovation is one-shot, and its results are often problematic, whereas the *kaizen* process, based on commonsense and low-cost approaches, ensures incremental progress that pays off in the long run. *Kaizen* is also a low-risk approach. Managers always can go back to the old way without incurring large costs.

Most “uniquely Japanese” management practices, such as total quality control (TQC) or companywide quality control and quality circles, and our style of labor relations can be reduced to one word: *kaizen*. Using the term *kaizen* in place of such buzzwords as *productivity*, *total quality control* (TQC), *zero defects* (ZDs), *just-in-time* (JIT), and the *suggestion system* paints a clearer picture of what has been going on in Japanese industry. *Kaizen* is an umbrella concept for all these practices. However, I hasten to add that these practices are not necessarily confined to Japanese management but rather should be regarded as sound principles to be applied by managers everywhere. By following the right steps and applying the processes properly, any company, no matter what its nationality, can benefit from *kaizen*. The widespread acceptance of *kaizen* into management thinking, including the successes of Kaizen Institute clients in more than 50 countries, bears this out.

Major *Kaizen* Concepts

Management must learn to implement certain basic concepts and systems in order to realize *kaizen* strategy:

- ▲ *Kaizen* and management
- ▲ Process versus result

- ▲ Following the plan-do-check-act (PDCA)/standardize-do-check-act (SDCA) cycles
- ▲ Putting quality first
- ▲ Speak with data.
- ▲ The next process is the customer.

By way of introduction, top management must put forth a very careful and very clear policy statement. It then must establish an implementation schedule and demonstrate leadership by practicing a *kaizen* procedure within its own ranks.

Kaizen and Management

In the context of *kaizen*, management has two major functions: maintenance and improvement (see Figure 1.1). *Maintenance* refers to activities directed toward maintaining current technological, managerial, and operating standards and upholding such standards through training and discipline. Under its maintenance function, management performs its assigned tasks so that everybody can follow standard operating procedures (SOPs). *Improvement*, meanwhile, refers to activities directed toward elevating current standards. The Japanese view of management thus boils down to one precept: Maintain and improve standards.

As Figure 1.2 shows, improvement can be classified as either *kaizen* or innovation. *Kaizen* signifies small improvements as a result of ongoing efforts. Innovation involves a drastic improvement as a result of a large investment of resources in new technology or equipment. (Whenever money is a key factor, innovation is expensive.) Because of their fascination

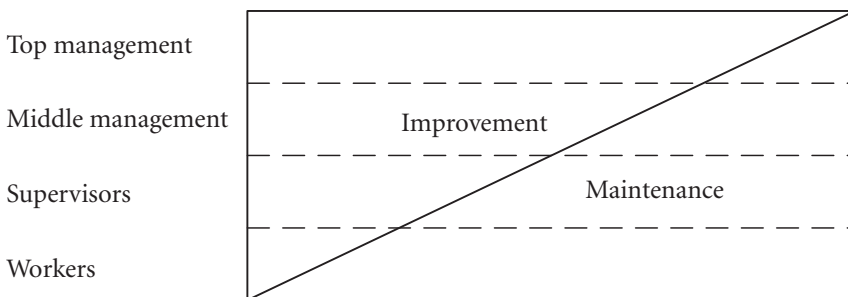


Figure 1.1 Japanese perceptions of job functions.

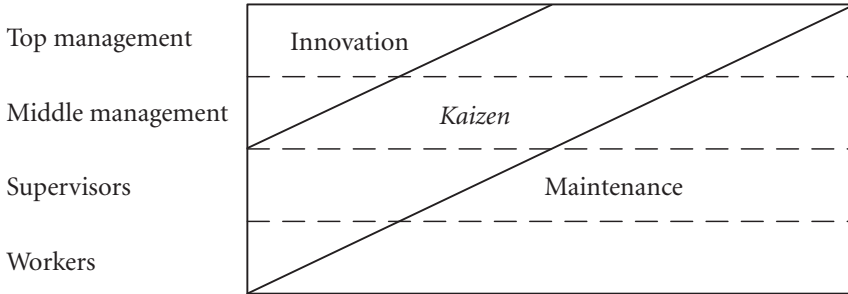


Figure 1.2 Improvement broken down into innovation and *kaizen*.

with innovation, Western managers tend to be impatient and overlook the long-term benefits *kaizen* can bring to a company. *Kaizen*, on the other hand, emphasizes human efforts, morale, communication, training, teamwork, involvement, and self-discipline—a commonsense, low-cost approach to improvement.

Process versus Result

Kaizen fosters process-oriented thinking because processes must be improved for results to improve. Failure to achieve planned results indicates a failure in the process. Management must identify and correct such process-based errors. *Kaizen* focuses on human efforts—an orientation that contrasts sharply with the results-based thinking in the West.

A process-oriented approach also should be applied in the introduction of the various *kaizen* strategies: the plan-do-check-act (PDCA) cycle; the standardize-do-check-act (SDCA) cycle; quality, cost, and delivery (QCD); total quality management (TQM); just-in-time (JIT); and total productive maintenance (TPM). *Kaizen* strategies have failed many companies simply because they ignored process. The most crucial element in the *kaizen* process is the commitment and involvement of top management. It must be demonstrated immediately and consistently to ensure success in the *kaizen* process.

Following the PDCA/SDCA Cycles

The first step in the *kaizen* process establishes the *plan-do-check-act* (PDCA) cycle as a vehicle that ensures the continuity of *kaizen* in pursuing a policy

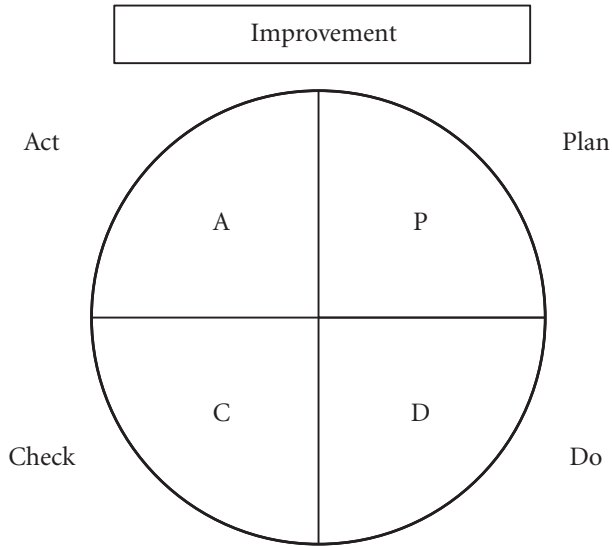


Figure 1.3 The plan-do-check-act (PDCA) cycle.

of maintaining and improving standards. It is one of the most important concepts of the process (see Figure 1.3).

Plan refers to establishing a target for improvement (since *kaizen* is a way of life, there always should be a target for improvement in any area) and devising action plans to achieve that target. *Do* refers to implementing the plan. *Check* refers to determining whether the implementation remains on track and has brought about the planned improvement. *Act* refers to performing and standardizing the new procedures to prevent recurrence of the original problem or to set goals for the new improvements. The PDCA cycle revolves continuously; no sooner is an improvement made than the resulting status quo becomes the target for further improvement. PDCA means never being satisfied with the status quo. Because employees prefer the status quo and frequently do not have initiative to improve conditions, management must initiate PDCA by establishing continuously challenging goals.

In the beginning, any new work process is unstable. Before one starts working on PDCA, any current process must be stabilized in a process often referred to as the *standardize-do-check-act (SDCA) cycle* (see Figure 1.4).

Every time an abnormality occurs in the current process, the following questions must be asked: Did it happen because we did not have a standard?

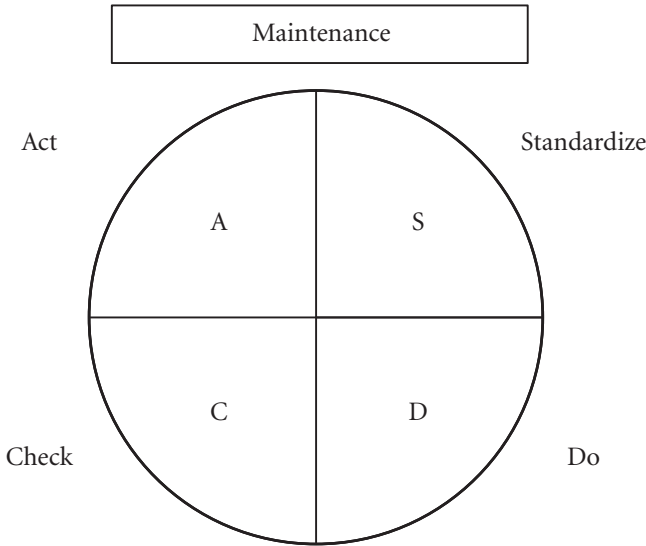


Figure 1.4 The standardize-do-check-act (SDCA) cycle.

Did it happen because the standard was not followed? Or did it happen because the standard was not adequate? Only after a standard has been established and followed, stabilizing the current process, should one move on to the PDCA cycle.

Thus the SDCA cycle standardizes and stabilizes the current processes, whereas the PDCA cycle improves them. SDCA refers to maintenance, and PDCA refers to improvement; these become the two major responsibilities of management.

Putting Quality First

Of the primary goals of quality, cost, and delivery (QCD), quality always should have the highest priority. No matter how attractive the price and delivery terms offered to a customer, the company will not be able to compete if the product or service lacks quality. Practicing a quality-first credo requires management commitment because managers often face the temptation to make compromises in meeting delivery requirements or cutting costs. In so doing, they risk sacrificing not only quality but also the life of the business.

Speak with Data

Kaizen is a problem-solving process. In order for a problem to be correctly understood and solved, the problem must be recognized and the relevant data gathered and analyzed. Trying to solve a problem without hard data is akin to resorting to hunches and feelings—not a very scientific or objective approach. Collecting data on the current status helps you to understand where you are now focusing; this serves as a starting point for improvement. Collecting, verifying, and analyzing data for improvement is a theme that recurs throughout this book.

The Next Process Is the Customer

All work is a series of processes, and each process has its supplier as well as its customer. A material or a piece of information provided by process A (supplier) is worked on and improved in process B and then sent on to process C. The next process always should be regarded as a customer. The axiom “the next process is the customer” refers to two types of customers: internal (within the company) and external (out in the market).

Most people working in an organization deal with internal customers. This realization should lead to a commitment never to pass on defective parts or inaccurate pieces of information to those in the next process. When everybody in the organization practices this axiom, the external customer in the market receives a high-quality product or service as a result. A real quality-assurance system means that everybody in the organization subscribes to and practices this axiom.

Major Kaizen Systems

The following are major systems that should be in place in order to successfully achieve a *kaizen* strategy:

- ▲ Total quality control (TQC)/total quality management (TQM)
- ▲ A just-in-time (JIT) production system (Toyota Production System)
- ▲ Total productive maintenance (TPM)
- ▲ Policy deployment
- ▲ A suggestion system
- ▲ Small-group activities

Total Quality Control/Total Quality Management

One of the principles of Japanese management has been total quality control (TQC), which, in its early development, emphasized control of the quality process. This has evolved into a system encompassing all aspects of management and is now referred to as *total quality management* (TQM), a term used internationally.

Regarding the TQC/TQM movement as a part of *kaizen* strategy gives us a clearer understanding of the Japanese approach. Japanese TQC/TQM should not be regarded strictly as a quality-control activity; TQC/TQM has been developed as a *strategy* to aid management in becoming more competitive and profitable by helping it to improve in all aspects of business. In TQC/TQM, Q, meaning “quality,” has priority, but there are other goals, too—namely, cost and delivery.

The *T* in TQC/TQM signifies “total,” meaning that it involves everybody in the organization, from top management through middle managers, supervisors, and shop-floor workers. It further extends to suppliers, dealers, and wholesalers. The *T* also refers to top management’s leadership and performance—so essential for successful implementation of TQC/TQM.

The *C* refers to “control” or “process control.” In TQC/TQM, key processes must be identified, controlled, and improved on continuously in order to improve results. Management’s role in TQC/TQM is to set up a plan to check the process against the result in order to improve the process, not to criticize the process on the basis of the result.

TQC/TQM in Japan encompasses such activities as policy deployment, building quality-assurance systems, standardization, training and education, cost management, and quality circles.

The Just-in-Time Production System

Originating at Toyota Motor Company under the leadership of Taiichi Ohno, the just-in-time (JIT) production system aims at eliminating non-value-adding activities of all kinds and achieving a lean production system that is flexible enough to accommodate fluctuations in customer orders. This production system is supported by such concepts as *takt* time (the time it takes to produce one unit) versus cycle time, one-piece flow, pull production, *jidoka* (“autonomation”), U-shaped cells, and setup reduction.

To realize the ideal JIT production system, a series of *kaizen* activities must be carried out continuously to eliminate non-value-adding work in *gemba*. JIT dramatically reduces cost, delivers the product in time, and greatly enhances company profits.

Total Productive Maintenance

An increasing number of manufacturing companies now practice *total productive maintenance* (TPM) within as well as outside of Japan. Whereas TQM emphasizes improving overall management performance and quality, TPM focuses on improving equipment quality. TPM seeks to maximize equipment efficiency through a total system of preventive maintenance spanning the lifetime of the equipment.

Just as TQM involves everybody in the company, TPM involves everybody at the plant. The five S of housekeeping (discussed in Chapter 5), another pivotal activity in *gemba*, may be regarded as a prelude to TPM. However, 5S activities have registered remarkable achievements in many cases even when carried out separately from TPM.

Policy Deployment

Although *kaizen* strategy aims at making improvements, its impact may be limited if everybody is engaged in *kaizen* for *kaizen*'s sake without any aim. Management should establish clear targets to guide everyone and make certain to provide leadership for all *kaizen* activities directed toward achieving the targets. Real *kaizen* strategy at work requires closely supervised implementation. This process is called Policy Deployment, or in Japanese, *hoshin kanri*.

First, top management must devise a long-term strategy, broken down into medium-term and annual strategies. Top management must have a plan-to-deploy strategy, passing it down through subsequent levels of management until it reaches the shop floor. As the strategy cascades down to the lower echelons, the plan should include increasingly specific action plans and activities. For instance, a policy statement along the lines of "We must reduce our cost by 10 percent to stay competitive" may be translated on the shop floor to such activities as increasing productivity, reducing inventory and rejects, and improving line configurations.

Kaizen without a target would resemble a trip without a destination. *Kaizen* is most effective when everybody works to achieve a target, and management should set that target.

The Suggestion System

The *suggestion system* functions as an integral part of individual-oriented *kaizen* and emphasizes the morale-boosting benefits of positive employee participation. Japanese managers see its primary role as that of sparking employee interest in *kaizen* by encouraging them to provide many suggestions, no matter how small. Japanese employees are often encouraged to discuss their suggestions verbally with supervisors and put them into action right away, even before submitting suggestion forms. They do not expect to reap great economic benefits from each suggestion. Developing *kaizen*-minded and self-disciplined employees is the primary goal. This outlook contrasts sharply with that of Western management's emphasis on the economic benefits and financial incentives of suggestion systems.

Small-Group Activities

A *kaizen* strategy includes *small-group activities*—informal, voluntary, intracompany groups organized to carry out specific tasks in a workshop environment. The most popular type of small-group activity is *quality circles*. Designed to address not only quality issues but also such issues as cost, safety, and productivity, quality circles may be regarded as group-oriented *kaizen* activities. Quality circles have played an important part in improving product quality and productivity in Japan. However, their role often has been blown out of proportion by overseas observers, who believe that these groups are the mainstay of quality activities in Japan. Management plays a leading role in realizing quality—in ways that include building quality-assurance systems, providing employee training, establishing and deploying policies, and building cross-functional systems for QCD. Successful quality-circle activities indicate that management plays an invisible but vital role in supporting such activities.

The Ultimate Goal of Kaizen Strategy

Since *kaizen* deals with improvement, we must know which aspects of business activities need to be improved most. And the answer to this question is quality, cost, and delivery (QCD). My previous book, *Kaizen: The Key to Japan's Competitive Success*, used the term *quality, cost, and scheduling* (QCS). Since that time, QCD has replaced QCS as the commonly accepted terminology.

Quality refers not only to the quality of finished products or services but also to the quality of the processes that go into those products or services. *Cost* refers to the overall cost of designing, producing, selling, and servicing the product or service. *Delivery* means delivering the requested volume on time. When the three conditions defined by the term QCD are met, customers are satisfied.

QCD activities bridge such functional and departmental lines as research and development, engineering, production, sales, and after-sales service. Therefore, cross-functional collaborations are necessary, as are collaborations with suppliers and dealers. It is top management's responsibility to review the current position of the company's QCD in the marketplace and to establish priorities for its QCD improvement policy.

Following the chapters of this book, I have assembled a number of cases that illustrate how various companies from both manufacturing and service sectors have implemented the concepts and systems of *gemba kaizen*.

