

Introduction to Kaizen Budgeting

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WHAT IS KAIZEN?

Kaizen is a very simple concept, formed from two Japanese characters: “kai”, meaning “change”; and “zen”, meaning “good”. Therefore, “kaizen”, means, “change for the better”, or “continuous improvement” (Cane, 1996, p3). The creator of the concept of kaizen, or continuous improvement, was the late Dr. W. Edwards Deming, an American statistician who made many visits to Japan in the years following World War II. Dr. Deming’s work was so widely regarded as the driving force behind the resurgence of the Japanese economy during this time, that one of Japan’s most coveted awards was later named the Deming Prize. Ironically, American businesses showed little interest in Dr. Deming’s work until the late 1970s when Japanese exports began to make a marked impact on the economy (Cane, 1996, pp 4-5). To paraphrase Matthew 13:58 in the New International Bible, a prophet is indeed without honor in his own country. A brief summary of Dr. Deming’s 14 key points of management is presented in the paragraph below (Deming, 1986, pp23-24).

DEMING’S 14 POINTS FOR MANAGEMENT

1. Create constancy of purpose for improvement of product and service with the aim to become competitive, to stay in business, and to keep providing jobs.
2. Adopt the new philosophy. We are in a new economic age. Western management must awaken to the challenge, learn their responsibilities, and take on leadership for change.
3. Cease dependence on inspection to achieve quality. Eliminate the need for inspection on a mass basis by building quality into the product in the first place.
4. End the practice of awarding business on the basis of price. Move toward a single supplier for any one item, based on a long-term relationship of loyalty and trust.

5. Improve constantly and forever every process for planning, production, and service. Improve quality and productivity and thus constantly decrease costs.
6. Institute training on the job. This should be a part of everyone's daily activities.
7. Adopt and institute leadership. The aim of supervision should be to help people, machines, and gadgets to do a better job. Supervision of management is in need of overhaul as well as supervision of production workers.
8. Drive out fear so that everyone may work effectively for the company because they want it to succeed.
9. Break down barriers between staff areas and departments. People in research, design, sales, and production must work as a team to foresee problems of production and in use that may be encountered with the product or service.
10. Eliminate slogans, exhortations, and targets for the workforce asking for zero defects and new levels of productivity. Such exhortations only create adversarial relationships, as the bulk of causes of low quality and low productivity belong to the system and thus lie beyond the power of the workforce.
11. Eliminate numerical quotas for the workforce and numerical goals for management.
 - a. Eliminate work standards (quotas) on the factory floor. Substitute leadership.
 - b. Eliminate the obsolete of "management by objective". Eliminate management by numbers and numerical goals. Substitute leadership.
12. Remove barriers that rob people of pride in workmanship – eliminate the annual rating or merit system.
 - a. Remove barriers that rob the hourly worker of his right to pride of workmanship. The responsibility of supervisors must be changed from quantity to quality.

- b. Remove barriers that rob people in management and in engineering of their right to pride of workmanship. This means abolition of the annual merit rating and of management by objectives.

13. Institute a vigorous program of education and self-improvement for everyone. Let them participate to choose the areas of development.

14. Put everyone in the company to work to accomplish the transformation. The transformation is everyone's job.

The traditional kaizen approach:

1. Analyzes every part of a process down to the smallest detail.
2. Sees how every part of the process can be improved.
3. Looks at how employees' actions, equipment, and materials can be improved.
4. Looks at ways of saving time and reducing waste (Cane, 1996, p8).

Kaizen is based on the belief that the people doing a particular job will often know better than everyone else, including their superiors, how that job can be improved; and that they should be given the responsibility for making those improvements (Cane, 1996, p13).

The production area is by no means the only area within a company where kaizen can be implemented. Every department within a company can make continuous improvements in its operations by making small changes on a daily basis. The first step in the process is to break down all communication barriers between the various units within the company. The master budget is one such tool that can be used to improve coordination and communication between all of the departments or other subunits within a company.

KAIZEN BUDGETING

Kaizen Budgeting is an approach that explicitly incorporates continuous improvement during the budget period into the budget numbers. The emphasis here is on many small improvements, rather than on quantum leaps. A journey of a thousand miles starts with a single step. The budget numbers are based on changes that are yet to be implemented, rather than on current practices or methods (Horngren, 2006, p185).

An example is that to build a certain product requires 3.75 hours of direct manufacturing labor per unit of output. We apply the kaizen budgeting approach to the direct manufacturing labor budget as follows:

BUDGETED HOURS PER UNIT

1st Quarter 2007: 3.75

2nd Quarter 2007: 3.70

3rd Quarter 2007: 3.65

4th Quarter 2007: 3.60

The implications of these labor-cost reductions would result in corresponding reductions in variable manufacturing overhead costs because direct manufacturing labor costs are usually the primary cost drivers for many of these overhead costs. Unless the kaizen goals are met, the actual hours will exceed the budgeted hours in the latter quarters of the budget year. Managers

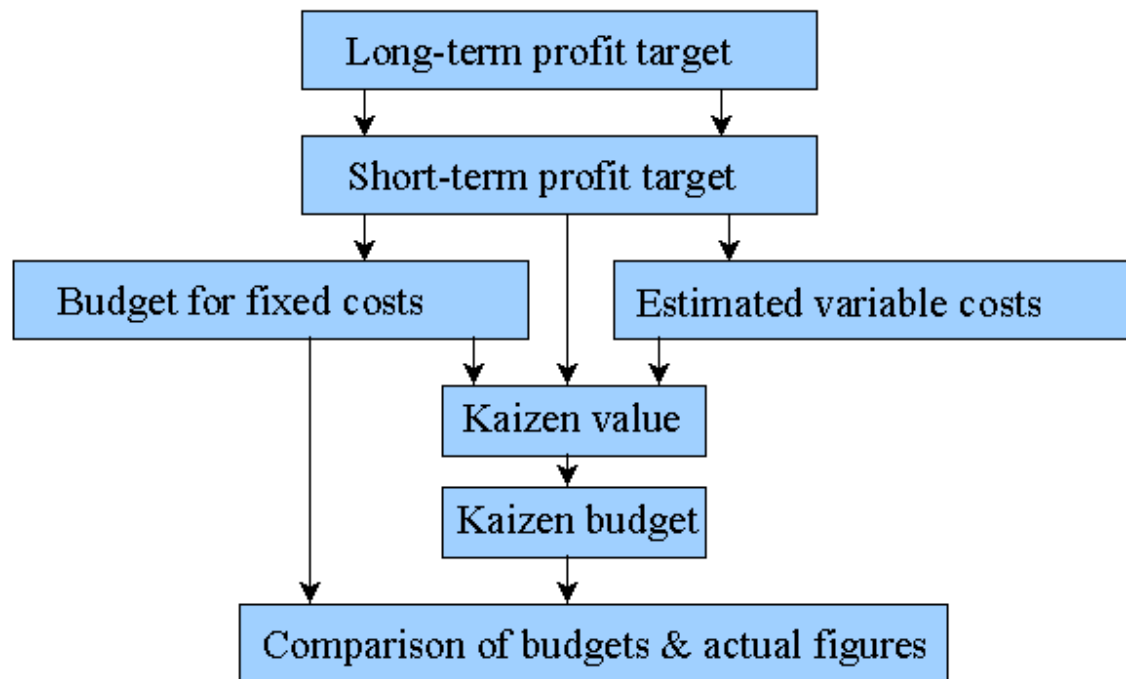
will explore reasons for not meeting these goals and will make the necessary adjustments to meet these goals.

For example, let us consider a description of Toyota's budgeting system. Upper management determines both the short-term target profit and the long-term sales-to-profit ratio, one year in advance. The budget is based on a profit target and a volume of production and is segregated into variable and fixed cost budgets. The fixed costs are separated into "controllable" and "uncontrollable" costs. Uncontrollable costs are those that have no room for further reduction. Kaizen Budgeting attempts to reduce the controllable costs. The variable costs budget is mostly concerned with those production costs not related to parts acquisition. The cost of raw materials cannot be simply reduced because they involve negotiation and there are complex considerations that go into these purchase transactions. The remaining variable costs such as direct manufacturing labor, utilities, and manufacturing overhead costs are controlled by the kaizen budget ([Tanaka, 1994](#)).

A useful way to evaluate the performance of a process is in terms of kaizen value, which is defined as the reduction in costs that would occur by altering the cost standard for each process. However, it is very important to note that reducing costs is only half of the target profit equation. To reach a target profit, it is equally important to increase sales revenues per unit of output. Variable costs increase as production increases thereby making it difficult to reduce costs. Therefore, it is preferable to increase sales revenue by increasing the price per unit sold, rather than to merely increase the number of units sold. To reduce costs, Toyota focuses on controllable variable production costs and requires across the board cuts to improve the cost standard for each major production process (also known as kaizen units). Kaizen units are

segments of the production process that exist only for the kaizen value distribution purposes and for the accumulation of variable manufacturing costs. Once the kaizen goals have been established, plant managers submit plans for achieving them twice a year. Such plans include improvements in daily operating procedures as well as technical and engineering improvements (Tanaka, 1994).

Exhibit 1 Toyota's Budget System*



* Adapted from Tanaka's Exhibit 1, p. 59.

KAIZEN COSTING

Kaizen costing focuses on obtaining small incremental cost reductions in the production stage of the products life cycle. Emphasis is placed on target cost decreases and employee empowerment to make it happen. The causes of waste, excess, and variation can be continually

reduced over time. The traditional costing approach compares actual costs with standard costs, which are based on static conditions, and views employees as a cause of unfavorable variances. Kaizen costing compares actual costs with target cost reductions under dynamic conditions, and views employees as the primary source of the solutions to problems ([Atkinson](#), et.al, 2001).

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