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Proposals that significantly reduce the largest sectors of a plantÕs total cost structure usually are the most appealing to management. This article introduces an opportunity that passes the test.

One of the most fundamental requirements of business operations is the ability to budget and control cost. This is especially so for the big-ticket functions in a plant's total cost.

Maintenance, in many operations, is a cost well in excess of a million dollars every month. The complex nature of this function, however, typically has prevented practices from taking form that would meet basic standards for cost budgeting and control. By bringing accounting, internal audit, and database mining skills to the problem, the ability to budget and control maintenance cost can finally match the complexity of the maintenance function.

Building the system to do so is one of a plant's most attractive alternatives for increasing its total profitability. In the process, a plant quantifies the gap in cost defined as "what is the total cost and why, and what should it be?"

The process then refines and expands the plant's previously installed best practices as is necessary to close the cost gap. Closing this gap is accomplished through a method known in accounting as "activity-based costing."

Profit potential

Based on our experieince, the ability to budget and control maintenance cost can increase income by 10 to 30 percent during strong business cycles, and over 100 percent during weak cycles. It may be the difference between profit and loss in the worst business cycles.

A plant is not required to take a leap of faith, however. The value is naturally calculated early on, as an operation's cost budget and control system is being built.

It is easy to estimate the profit possibility for any plant. Industry benchmarking has found that

total maintenance cost can be reduced by 10 to 35 percent.

The best acid test of potential, though, would be to assume a low range to see if the profit increase would still be significant.

First, multiply plant total maintenance by the selected range that maintenance cost may be reduced. Since a dollar reduced goes to the bottom line, the second step is to add the result of the first step to plant profit associated with various business cycles and convert it to a percent increase. The increase for plant return on capital employed will be approximately the same.

Methodology explained

Figure 1 shows that a cost is the combination of an activity performed for a business object and the resources consumed by the activity. Resources are everything for which a dollar is spent, as captured in the plant general ledger.

Cost budgeting determines what the activities should be for a business object, such as a plant area or product and the resources to execute them. Through each business object, the activities are tied to plant performance. Cost control assures that the activities were performed as planned and with respective resources.

Budgeting is preceded by three things.

- First is understanding the what, why and how for competing and profiting.
- Second is establishing the business objects for which activity-based cost must be known, budgeted, and controlled, because they are the focus of plant performance and decision-making. Examples include product, market, customers, department, asset, and crew.
- Third is identifying the plant's unique core performance and cost problems with respect to reliability and maintenance.

Building the budget allows management to understand why the cost to compete and profit is what it is with respect to business objects—and what they should be, instead. It also allows the plant to distinguish between the resources needed for the activities and the capacity and cost of

the plant's existing resource case. It follows that such a business-object-focused understanding allows management to ask and answer the questions it needs for all types of decision-making.

Control begins by routinely measuring, investigating, and acting on variances to what the costs should be, thus allowing a plant to graduate from external benchmarks to its own unique set. In the words of one plant manager, control can best be summed up as: "I don't want to just see the numbers, I want know what you are doing about them."

Acting on the answer to this type of request causes a plant's best practices to deliver competitiveness and profitability.

Assurance procedures

Building an activity-based budgeting and control system is a wasted investment if a plant cannot act effectively and efficiently to reduce and hold the line on targeted costs. The key is the connection between the system and the operation's existing best practices. The connection is assurance procedures.

Assurance procedures underlie the budget, variance and control actions. They are refinements and expansions to maintenance best practices (and others) that are already in place. These procedures are revealed and implemented as the system is designed, built and operated. Their purpose is to confirm performance, control cost and generate control-quality data.

Assurance procedures accept the plant's best practices as they are now. They make only the improvements needed to tap into their im-plications for re-ducing cost and assuring workload execution. Thus, list of improvements will be short—and most will be a small matter to implement.

Building it

Building an activity-based cost budgeting and control system is a three-step dance.

- The first step is to understand the plant in depth as a business. This reveals how the plant works, competes and profits, as well as what plant-wide practices it has built over time to do so. In turn, this will reveal the core types of decision-making and cost and performance problems

that must be dealt with through the system. In such a context, the plant's total costs will be identified through the general ledger of accounts, and its software systems will be mapped to size up the availability and quality of data in the plant.

- The second step is to set the structure for the cost system, based on the facts gathered by the first step. This step defines the structure of business objects, activities, and resources on which the budget and variance documents will be designed. Hand in hand, the necessary assurance procedures are defined.
- The third step is to build the system. This is done in a manner akin to building the next several rungs on a ladder to be climbed. For example, the most common initial obstacle to activity-based cost management is the control-quality of data. Of course, much of the important data resides in the CMMS database. It is now unusual to find plants without a CMMS. Initially, however, the data often is not of sufficient quality for cost management.

If the data is weak, the first action is to immediately determine and implement assurance procedures for quality controls at its source. This quickly accumulates data with which to build the plant's ability to form a detailed ex-planation of what is happening as the present month is unfolding and to present a full picture of the past months. After several months, the data will have reached a point of statistical mass on which the plant can begin to build its ability to budget cost and subsequently conduct monthly variance analysis.

As the budget and control system is built, the plant will concurrently act to reduce total cost, while assuring workload performance. Meanwhile, management's discussions and decisions around maintenance change radically, because they can.

A new best practice

Cost budgeting and control for maintenance is a new "best practice" for plants. Think of this methodology as a sturdy platform from which other long-established maintenance best practices are molded. It is an effective way to help them deliver their potential for your plant's competitiveness and profitability.

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