

# PRICING FOR SUCCESS

AS A PCO, HOW DO YOU SET A FAIR PRICE FOR YOUR WORK? SHEER GUESSWORK? HOCUS POCUS? VOODOO? BELIEVE IT OR NOT, THERE ARE SOME BASIC, TRIED-AND-TRUE ACCOUNTING CONCEPTS THAT, ALTHOUGH THEY DO TAKE SOME WORK TO LEARN, WILL SERVE YOU A LOT BETTER THAN THOSE WILD STABS IN THE DARK.

BY PAUL J. BELLO

**M**any of us only think about accounting as April 15 and other such deadlines approach. However, not all accounting is tax or financial statement preparation. There is a discipline of accounting known as managerial accounting that is primarily concerned with analyzing, preparing and interpreting information to assist management in making operational decisions. Knowledge of certain managerial accounting concepts can be very beneficial to PCOs in running their operations. This article does not attempt to discuss or illustrate the voluminous material necessary to gain a full understanding of managerial accounting. Rather, it briefly describes certain topics that may be useful to PCOs.

In order to capture all costs related to doing business, the PCO should understand the basics of *cost allocation*. Knowledge of how to relate costs will enable the PCO to determine the true cost of operations, and to price work accordingly. The glossary on page 41 defines a few relevant terms for the reader's reference during review of the examples presented in this article.

**EXAMPLE 1.** Let's review the income statement provided in Figure 1 on page 36. The tendency is to look directly to the bottom line for the income or loss. (In accounting, negative dollar amounts — such as losses or amounts to be subtracted from other



amounts — are typically shown in parentheses.) You will note that Kilmded reported a loss from operations for the year of \$14,500. Let's look further and examine some of the possible underlying causes for this loss.

The loss was unnecessary. Kilmded might have broken even or had a slight profit if they had managed their purchases and inventory more carefully. An examination of the Pest Control Materials & Supplies Account (in the Cost of Goods & Services Sold section) reveals that inventory grew during the year by \$10,000 — from \$25,000 to \$35,000. What does this mean to PCOs in the real world?

I can think of little reason to have excessive pest control materials sitting in my supply room. It's helpful to picture excess inventory as dollars placed in an area to

which you have no access. In reality, until it is consumed by the business, this is exactly what inventory is. By "carrying" excess inventory, we incur hidden additional costs. A few managerial accounting concepts are applicable here, including *carrying cost*, *just-in-time (JIT) purchasing* and *safety stock*.

As defined in the accompanying glossary (p. 41), *carrying cost* is the opportunity cost of having funds tied up and unavailable for another use. Let's say Kilmded's inventory was too high by the amount of \$12,000. This means Kilmded has exceeded its usage patterns and *safety stock* of materials inventory by \$12,000. As a result, Kilmded has \$12,000 less to spend for another purpose. Opportunities arise every business day which Kilmded may not be financially able to take advantage of — thus the term *opportunity cost*. For example, suppose Kilmded has loans outstanding for vehicles, equipment or property. The debt interest expense might be reduced or eliminated by the funds that would be freed up through better management of inventory.

**IN THE NICK OF TIME.** *Just-in-time (JIT) inventory purchasing* is a common practice of many business entities today. JIT is based on the concept of purchasing goods just before they are to be consumed. To be successful at this, you must consider your current and expected usage patterns, plus

(continued on page 36)

## PRICING FOR SUCCESS

(continued from page 34)

any role that *safety stock* may play.

A good example where JIT might be applied to PCOs is in the area of rodent control. Each fall and winter it can be expected that PCOs in the northeastern U.S. will have an increased need for rodent control materials. Therefore a pest control inventory manager might be expected to "load in" a good supply of rodent control materials in anticipation of the upcoming season. The possibility to err here is twofold. First, the PCO needn't order more than necessary until the next order cycle can be achieved. And second, the PCO needs to have enough materials on hand to supply the needs of the field. This is the balance that JIT and safety stock must achieve to have optimal economic and operational effects for the PCO.

*Safety stock* is the quantity of material needed to meet usage until the next supply order is received. (This is barring market shortages; no drastic supply shortages of pest control materials are expected.) When the safety stock inventory quantity is reached, the PCO must order the replenishment supply. Successful implementation of these concepts takes effort and follow-up by managers.

Kilmded's income from operations was a loss of \$14,500. Was this really a bad performance by the company for the year? Probably not, since the officer's (owner's) salary was \$95,000. It is important to note here that the owner or principle of the PCO firm needs to budget his or her salary into the business costs (or *overhead*) as well as other overhead items. Small business owners may fail to do so, relying on sales volume net of expenses to provide their individual income. Failing to budget for all overhead items may yield incorrect pricing that does not meet expenses, because all the related expenses incurred haven't been taken into account in determining prices.

**EXAMPLE 2.** The next example illustrates the term *contribution margin*, which is defined as sales dollars less variable costs. We'll use a termite treatment as an example.

Suppose Kilmded was to perform a termite treatment given the following facts:

2 Gallons of Termiticide Concentrate	\$ 260
Miscellaneous Supplies	50
8 Labor Hours (2 Men @ \$20/Hour)	<u>160</u>
<b>Total Variable Costs</b>	<b>\$ 470</b>

## SAMPLE INCOME STATEMENT

### Kilmded Pest Control Income Statement For the Year Ended December 31, 1994

<b>Sales</b>		\$ 1,015,000
Less: Sales discounts		<u>(1,000)</u>
<b>Net sales revenue</b>		\$ 1,014,000
<b>Cost of goods &amp; services sold</b>		
Pest control materials & supplies		
Beginning inventory	\$ 25,000	
Purchases	\$ 100,000	
Less purchase discounts	<u>(5,000)</u>	
Net purchases	<u>95,000</u>	
Total supplies available	\$ 120,000	
Less: Ending inventory	<u>(35,000)</u>	
<b>Cost of materials &amp; supplies used</b>		<u>85,000</u>
<b>Gross profit</b>		\$ 929,000
<b>Operating expenses</b>		
Selling & service expenses		
Sales salaries & commissions	\$ 15,000	
Sales office salaries	35,000	
Service technician salaries	400,000	
Service equipment depreciation	16,000	
Vehicle expense	6,000	
Training	3,000	
Miscellaneous service supplies	3,000	
Travel & Entertainment	5,000	
Advertising	150,000	
Telephone	<u>24,000</u>	
Total selling & service expenses		657,000
Administrative expenses		
Office staff salaries	\$ 45,000	
Officer's salaries	95,000	
Legal & professional fees	15,000	
Rent	18,000	
Utilities	12,000	
Insurance	95,000	
Office equipment depreciation	2,000	
Stationery, supplies & postage	2,000	
Miscellaneous office expense	<u>2,500</u>	
Total administrative expenses		286,500
<b>Total operating expenses</b>		<u>943,500</u>
<b>Income (loss) from operations</b>		\$ (14,500)

Figure 1. Sample income statement for Kilmded Pest Control for the year ended Dec. 31, 1994.

• At what price should Kilmded be willing to perform this job?

• What profit should Kilmded expect to gain as a result of doing this job?

If Kilmded applies the contribution margin concept, they would be willing to do the job for any amount above their variable costs of \$470. How can this be? To explain this concept, we must make certain assumptions regarding workload and competition (and keep in mind we're talking on a theoretical basis). Kilmded will not incur the variable costs listed above if they *don't* do the job. However, every hour of every

day that passes, Kilmded is incurring numerous fixed costs, such as rent. As such, any job that is sold for a *margin* of dollars that can be used to *contribute* to fixed costs should be performed by the company.

When the PCO has properly identified all variable costs for a specific type of work, the contribution margin may then be figured. Of course, all work cannot be expected to be priced in this fashion, or the PCO may never meet or exceed his *fixed costs* and *overhead* amounts. This is not intended to build the precedent of lowball

(continued on page 40)

## PRICING FOR SUCCESS

(continued from page 34)

any role that *safety stock* may play.

A good example where JIT might be applied to PCOs is in the area of rodent control. Each fall and winter it can be expected that PCOs in the northeastern U.S. will have an increased need for rodent control materials. Therefore a pest control inventory manager might be expected to "load in" a good supply of rodent control materials in anticipation of the upcoming season. The possibility to err here is twofold. First, the PCO needn't order more than necessary until the next order cycle can be achieved. And second, the PCO needs to have enough materials on hand to supply the needs of the field. This is the balance that JIT and safety stock must achieve to have optimal economic and operational effects for the PCO.

*Safety stock* is the quantity of material needed to meet usage until the next supply order is received. (This is barring market shortages; no drastic supply shortages of pest control materials are expected.) When the safety stock inventory quantity is reached, the PCO must order the replenishment supply. Successful implementation of these concepts takes effort and follow-up by managers.

Kilmdded's income from operations was a loss of \$14,500. Was this really a bad performance by the company for the year? Probably not, since the officer's (owner's) salary was \$95,000. It is important to note here that the owner or principle of the PCO firm needs to budget his or her salary into the business costs (or *overhead*) as well as other overhead items. Small business owners may fail to do so, relying on sales volume net of expenses to provide their individual income. Failing to budget for all overhead items may yield incorrect pricing that does not meet expenses, because all the related expenses incurred haven't been taken into account in determining prices.

**EXAMPLE 2.** The next example illustrates the term *contribution margin*, which is defined as sales dollars less variable costs. We'll use a termite treatment as an example.

Suppose Kilmdded was to perform a termite treatment given the following facts:

2 Gallons of Termiticide Concentrate	\$ 260
Miscellaneous Supplies	50
8 Labor Hours (2 Men @ \$20/Hour)	<u>160</u>
<b>Total Variable Costs</b>	<b>\$ 470</b>

## SAMPLE INCOME STATEMENT

### Kilmdded Pest Control Income Statement For the Year Ended December 31, 1994

<b>Sales</b>		\$ 1,015,000
Less: Sales discounts		<u>(1,000)</u>
<b>Net sales revenue</b>		\$ 1,014,000
<b>Cost of goods &amp; services sold</b>		
Pest control materials & supplies		
Beginning inventory	\$ 25,000	
Purchases	\$ 100,000	
Less purchase discounts	<u>(5,000)</u>	
Net purchases	95,000	
Total supplies available	\$ 120,000	
Less: Ending inventory	<u>(35,000)</u>	
		85,000
<b>Cost of materials &amp; supplies used</b>		
		<u>85,000</u>
<b>Gross profit</b>		\$ 929,000
<b>Operating expenses</b>		
Selling & service expenses		
Sales salaries & commissions	\$ 15,000	
Sales office salaries	35,000	
Service technician salaries	400,000	
Service equipment depreciation	16,000	
Vehicle expense	6,000	
Training	3,000	
Miscellaneous service supplies	3,000	
Travel & Entertainment	5,000	
Advertising	150,000	
Telephone	<u>24,000</u>	
Total selling & service expenses		657,000
Administrative expenses		
Office staff salaries	\$ 45,000	
Officer's salaries	95,000	
Legal & professional fees	15,000	
Rent	18,000	
Utilities	12,000	
Insurance	95,000	
Office equipment depreciation	2,000	
Stationery, supplies & postage	2,000	
Miscellaneous office expense	<u>2,500</u>	
Total administrative expenses		286,500
<b>Total operating expenses</b>		<u>943,500</u>
<b>Income (loss) from operations</b>		\$ (14,500)

Figure 1. Sample income statement for Kilmdded Pest Control for the year ended Dec. 31, 1994.

• At what price should Kilmdded be willing to perform this job?

• What profit should Kilmdded expect to gain as a result of doing this job?

If Kilmdded applies the contribution margin concept, they would be willing to do the job for any amount above their variable costs of \$470. How can this be? To explain this concept, we must make certain assumptions regarding workload and competition (and keep in mind we're talking on a theoretical basis). Kilmdded will not incur the variable costs listed above if they *don't* do the job. However, every hour of every

day that passes, Kilmdded is incurring numerous fixed costs, such as rent. As such, any job that is sold for a *margin* of dollars that can be used to *contribute* to *fixed costs* should be performed by the company.

When the PCO has properly identified all variable costs for a specific type of work, the contribution margin may then be figured. Of course, all work cannot be expected to be priced in this fashion, or the PCO may never meet or exceed his *fixed costs* and *overhead* amounts. This is not intended to build the precedent of lowball

(continued on page 40)

# PRICING FOR SUCCESS

(continued from page 36)

pricing. Actually, identification of *all* costs properly budgeted to yield quality work should result in fair pricing for the work delivered.

It is assumed we are in the pest control business to deliver quality service at a profit. Each PCO expects to gain a profit for work done. How much profit each PCO expects is an individual policy decision. But without applying some form of the concepts described in this article, the profit level achieved may not be as expected.

This brings us to the concept of *overhead*. Let's review Kilmdded's income statement (p. 36) once more. Note all the line items that qualify as overhead items. These costs must be included in Kilmdded's pricing considerations, but how? Overhead costs are usually allocated to products or profit centers by a systematic method. These methods allocate the costs by applying an overhead rate, in dollars, based on the different levels of activity. These levels

of activity may include units of production, square footage, or labor hours. It appears that the last of these, labor hours, is the best fit for PCOs. Let's examine how Kilmdded might go about allocating overhead expenses per labor hour.

**EXAMPLE 3.** Let's assume Kilmdded's overhead costs (all of its expenses which are not *direct costs*) were \$528,500 for the year. Kilmdded has decided to use labor hours for allocation of overhead, as follows:

<b>Total Labor Hours Per Year</b>
8 Techs × 40 Hours/Week × 52 Weeks
<b>= 16,640 Hours</b>
<b>Actual Overhead Rate</b>
\$528,500 ÷ 16,640 Hours
<b>= \$31.76 Per Labor Hour</b>

The *actual overhead* rate for 1994 was \$31.76 per labor hour.

We have discovered yet another accounting term: *actual overhead*. In reality, Kilmdded would not be able to calculate actual overhead until the period was over. (The period may be one year, one month or one quarter for budgetary purposes.) What is useful to the PCO here is the methodology and concept. Kilmdded can use the

experience gained from their actual costs in 1994 to better predict what to expect in 1995. As such, they can predict a budgetary overhead rate to apply, or *applied overhead*, upon which to base their pricing and other operational decisions. Further, Kilmdded's management may compare their 1995 actual overhead costs periodically to the budgeted amounts and adjust their applied rates as necessary.

**EXAMPLE 4.** We'll now carry what we learned in Examples 2 and 3 a step further. From Example 3, we now know Kilmdded's overhead rate that we should have applied for full costing of the termite job discussed in Example 2.

Total Variable Costs	
(from Example 2)	\$ 470.00
Add Overhead:	
8 Hours Labor × \$31.76	<u>254.08</u>
<b>Total Cost To Complete Job</b>	<b>\$ 724.08</b>

• *Should Kilmdded Pest Control do this job for \$724.08?*

We can address this question a number of ways. Economists would answer a definitive yes, while accountants and financial professionals might be more cautious.

Certainly it may be argued Kilmded should go ahead and do the job because all the operational costs for the period have been allocated and the job is at break-even. On the other hand, should

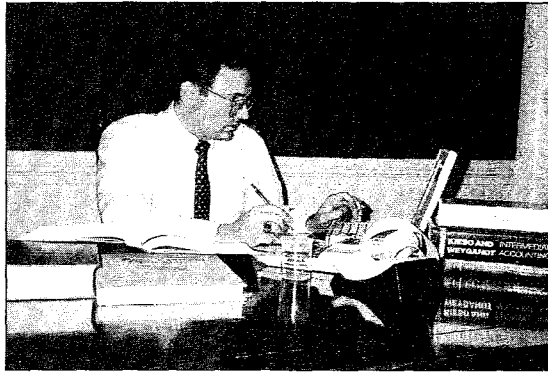
## COST ACCOUNTING: A GLOSSARY

The following definitions have been adapted from *Cost Accounting: A Managerial Emphasis* by Horngren and Foster.

- Break-even point** — The point at which total revenues equal total expenses.
- Carrying cost** — When materials are held in stock, the opportunity cost of the investment occupied by the stock. Also includes costs for storage, insurance and handling.
- Contribution margin** — Sales revenue less all variable costs.
- Cost** — Funds or resources given up to receive a benefit.
- Cost accounting** — See *managerial accounting*.
- Cost allocation** — The assignment of costs by means of a systematic method to services, production or operations. For example, overhead costs may be allocated based on the number of direct labor hours.
- Depreciation** — The amortization of an asset's value over the estimated service life of the asset. For example, the cost of a \$3,600 computer might be amortized at \$100 per month for a three-year period.
- Direct cost** — A cost that can be specifically traced to a service or product in an economically feasible manner.
- Fixed cost** — A cost that remains unchanged for a given period of time regardless of changes in operations or activity.
- Gross margin** — Sales less cost of goods sold.
- Indirect cost** — A cost that cannot be specifically traced to a single product or service.
- Just-in-time (JIT) purchasing** — The practice of purchasing materials inventory just prior to its consumption in an effort to reduce inventory carrying costs. (Also referred to as *just-in-time inventory*.)
- Learning curve** — A graphical relation that shows how labor hours per unit of production decreases over time. As workers learn a job, the time necessary to complete the job declines.
- Managerial accounting** — The comprehensive analysis of operational information and communication of information to management. (Managerial accounting is also frequently referred to as *cost accounting*.)
- Mixed cost** — A cost that has both fixed and variable components.
- Overhead** — All costs except direct materials and direct labor associated with a product or service.
- Period cost** — A cost that is always expensed in the period in which it was incurred.
- Predatory pricing** — The practice of temporarily reducing prices to yield a restriction in supply with the intention of subsequently raising prices rather than increasing demand or meeting competitive prices.
- Safety stock** — The minimum quantity of inventory needed to offset lead time in delivery or as a cushion against unexpected supply shortages.
- Straight-line depreciation** — A method to calculate depreciation in which an equal amount is expensed in each period (each year, for instance) over a set period of time (usually the expected lifetime of the asset).
- Variable cost** — A cost that changes in direct relation to production.

Kilmed perform all its work for the year in this fashion, the company would net zero profit, zero growth, and zero retained earnings upon which to grow the business.

**A COUPLE CAVEATS.** There are important limitations hidden in these examples. Activity, idle time, and competition need to be considered. These examples have enabled the reader to consider methodologies with which to review contribution margin and costs in the light of pricing without regard to activity or idle time. The reader must realize the inherent pitfalls



Managerial accounting skills greatly enhance a PCO's ability to monitor his company's financial performance.

when setting rates for service work, because these rates are also based on assumptions of activity levels and production levels.

Note in the setting of the actual overhead rate in Example 3 (p. 40) the number of labor hours utilized. The hours utilized were for a full year of activity *without* idle or down time. A more conservative basis would be to use fewer hours, thus increasing the rate. Increasing the rate in this fashion will help management ensure that it meets or exceeds costs should the anticipated activity or production levels not be reached.

Consider that there are peaks and valleys to our industry when attempting to apply these concepts, and adjust your expected budgetary outcomes accordingly. Also, these systems and methodologies require review and follow-up by management on a regular basis in order to be reliable tools on which to base operational decisions.

**SUMMARY.** PCOs who enjoy profitable, growing businesses today probably have inherently

applied many of the managerial accounting concepts discussed in this article and in accounting textbooks. The difference is these PCOs have learned through the active day-to-day management of their business.

The accounting jargon and terminology used in this article may be foreign to many PCOs, but there is practical value in understanding and applying these concepts. Some of the concepts that may be practically applied today by the PCO include JIT purchasing and inventory control, safety stock, contribution margin, and cost allocation. PCOs are encouraged to learn how these and other managerial accounting methodologies will better enable them to maintain and grow their businesses.

**PCT**

*Paul J. Bello, the southeastern regional technical coordinator for Zeneca Professional Products, holds a B.S. in entomology and an M.B.A. in accounting.*

#### REFERENCES

- *Cost Accounting: A Managerial Emphasis*, 6th Edition, Horngren and Foster, Prentice-Hall.
- *Intermediate Accounting*, 6th Edition, Keiso and Weygant, Wiley Press.