ESTIMATING
FOR PROFIT IN REMODELING

By identifying areas of uncertainty, your estimates can expect the unexpected — and charge for it

By Martin King

I prefer to open estimating seminars with two questions:

Question 1: "What is the most *profit* you can possibly make on a $15,000 remodeling job?"

Answers usually start at $3,000 and tend to peak at $8,000 with a lot of haggling. Of course, even if your labor and materials were free, and you were the world's most efficient company, you could not exceed a profit of $15,000.

Question 2 is easier: "What is the most money you can *lose* on a $15,000 job?"

Every contractor knows that answer: There is no limit as to how much you can lose. A single project can consume the profits of six months...and more.

That paradox holds the crux of the problem. Profit is limited, losses are not.

So it is appropriate to start a discussion of construction estimating with a consideration of profit, because the goal of estimating is to produce an appropriate profit.

Profits are Produced, Losses Occur

We produce profits consciously, by specific actions. The production of profit requires experience, foresight, and planning—things that minimize uncertainty and risk.

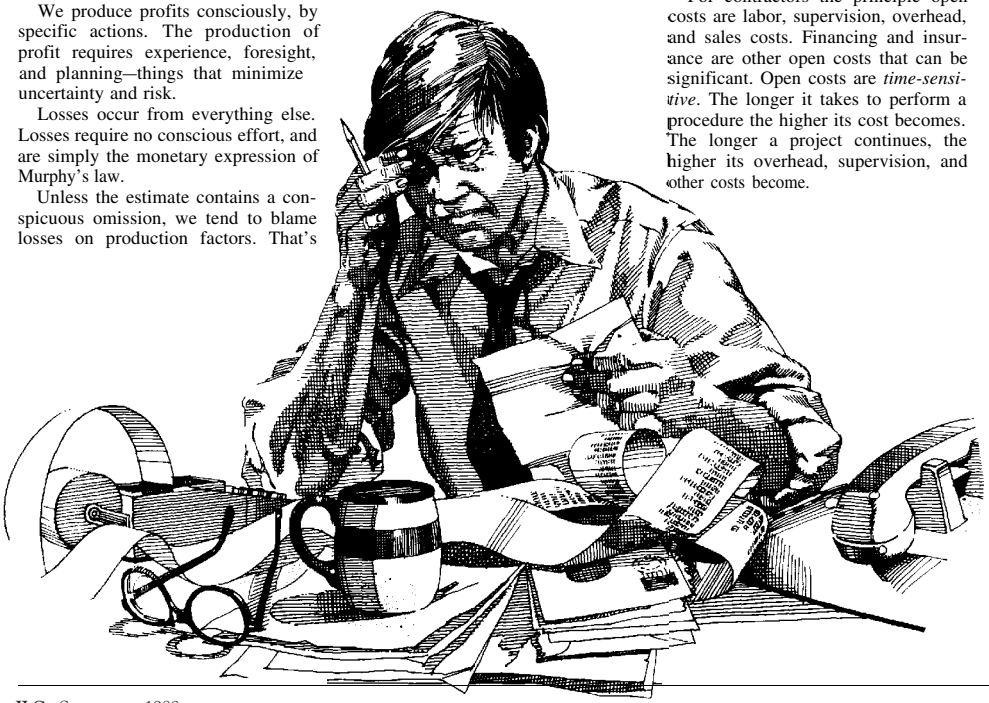
Losses occur from everything else. Losses require no conscious effort, and are simply the monetary expression of Murphy's law.

Unless the estimate contains a conspicuous omission, we tend to blame losses on production factors. That's where the costs appear. Afterwards we scrutinize the production area for ways to prevent similar losses in the future. Profitable jobs seldom receive the same scrutiny, even though unexpected costs do occur in them as well. Whether the job was profitable or not, the effect of lost profit is the same.

This article will examine some factors that contribute to unexpected costs and provide a basis for managing them by estimation. It is the estimator's job to determine where areas of uncertainty exist, and provide for them with dollars or words.

Closed and Open Costs

One set of problems arises from the mechanism by which estimates are prepared. A typical estimate lists the material and labor costs of the components, along with subcontractor quotes. The unit material and labor costs are multiplied by the quantities required. To the sum of these costs are added factors for supervision, contingencies, overhead, and profit. This orderly array is really a mixed bag of predictable and highly variable costs.



The material costs are easy to find. You look at recent invoices, call suppliers for a current quote, or send them a material takeoff and let them figure it up for you. If you track job costs you may transfer prices from a similar project. Except for outright estimator error, there is no reason for variation between estimated and actual material costs. Similarly, if the specs are right, a firm quote by a responsible sub should match his billing.

These precisely defined costs can be termed *closed costs*. They stay put, and don't start to grow as soon as you look the other way. Closed costs are easy to calculate, and tend to get more emphasis than they deserve. If estimating were really a matter of listing closed costs, contractors would rack up profits with unwavering regularity. The fact is, they don't, which leads us to conclude that there must be another kind of cost.

We can call this variety *open costs.* Unrecognized open costs are a major reason why year after year, some contractors have so little to show for their efforts.

For contractors the principle open costs are labor, supervision, overhead, and sales costs. Financing and insurance are other open costs that can be significant. Open costs are *time-sensitive*. The longer it takes to perform a procedure the higher its cost becomes. The longer a project continues, the higher its overhead, supervision, and other costs become.

A successful estimator evaluates those characteristics in the project that are likely to affect the open costs. He then provides for those variables in the estimate. His provisions may take the form of higher prices for specific categories, or they may appear as limiting clauses in the contract document. One way or another, the estimator uses informed judgement to provide for open costs.

Labor

Even though pricing manuals and data bases show standard unit costs for labor, it is a mistake to plug in labor as a closed cost. Published unit-labor costs are usually based on large quantities and ideal site conditions, along with assumptions of skill, equipment availability, and supervision that may not apply to the company and project at hand. There is no procedure so simple that production costs cannot increase from two to ten times because of difficult conditions, incompetence, or unforeseen problems. As a major component of cost, labor time requires the estimator's close scrutiny. Some of the variables affecting labor cost are:

Quantity. Mobilization and set-up, as well as closedown and cleanup, are part of most operations, and their time is distributed over the total quantity of work performed. Small quantities bear a greater portion of this labor "overhead," and will exhibit a higher unit cost. In addition, small or divided work units deprive tradesmen of time to develop efficient work rhythms. The result will be an unexpectedly high production cost.

Unfamiliar materials. New materials come on line all the time, and architects love to spec them. The anticipated cost advantage does not materialize until installers learn how to handle the product and understand the manufacturer's storage, preparation, and installation standards. First time around, someone has to pay for this training—the estimator's job is to be sure it's the buyer.

Complex or unorthodox design. The impact of complex or unorthodox design on performance time is devastating. Standard production rates go out the window as the drawings are scrutinized at every step and work is delayed while questions are answered. Redoing incorrect work means tear out, ordering

more material, paying additional labor, rearranging the work schedule.

When confronted by an unorthodox project the estimator does well to review the work with experienced superintendents and tradesmen, as well as manufacturers' reps. Consultations may reveal techniques that lead to a more competitive quote. They may also bring out unforeseen complications. Either way, the project benefits.

Incomplete plans or specs. Whenever the estimator encounters an ambiguity in the specs, he can either sidestep the issue by resolving it on his own terms or he can meet it head-on by asking for a time-consuming clarification. Sidestepping the issue means the problem will have to be resolved later, probably at the worst possible moment, by personnel who may be unskilled in negotiations.

Including allowances for cabinetry, appliances, and other materials can have the same effect: They guarantee that decisions will be postponed until the last possible moment. At that point, selections may complicate or delay other work underway, or conflict with work already completed. Leaving questions unresolved may make it easier to get the contract signed, but they are time-bombs waiting to blast holes in your profit. Smart estimators avoid them.

Supervision

Supervision frequently becomes an unexpected open cost. Some contractors estimate on-site supervision as a percentage of the total job price. Other contractors don't show it at all. We have not found a relationship between the job price and the amount of supervision required. Jobs that use many trades, unorthodox design elements, or an extended production period are supervisor-intensive. The price of these jobs may or may not support the amount of supervision required. Other projects may be large and simple, requiring little supervision.

An accurate method of estimating supervision cost is to project the actual quantity of superintendent days required, based on the length of the project, and charge it at a superintendent's rate. Site mobilization and punch-out also involve supervision costs, which the estimator should evaluate and include as specific items.

The important fact to notice is that *anything* prolonging the project also increases supervisory cost. This hidden multiplier effect can make delays extremely costly.

Overhead

Estimators should not treat overhead lightly. The goal is to have all costs covered by year's end, leaving profit intact. For this to play out, *all* costs not covered as estimate line-items must be included in overhead.

Overhead is especially high in smaller businesses. For many contractors, insufficient overhead allocation is the source of chronic profit problems. Some contractors add an arbitrary overhead factor gleaned from a pricing manual. If you enjoy groping in the dark, that's one way to do it. Others look at last year's sales and divide their total overhead expense by that number. This provides a factor that expresses overhead as a function of sales. Multiply that factor by the price of the job and you will find an overhead allowance for that job.

Even this is haphazard, because overhead really is a time-sensitive open cost. Each of us has 260 days each year to cover our overhead. The length of time the project runs determines what portion of overhead it uses, not the project's dollar amount. Overhead is office rent, telephone, utilities, the secretary, the boss's salary, the estimator's salary, the company's cars, trucks, and insurance: everything that's not a direct project cost.

Sometimes small projects take as long to complete as larger projects. They should carry their accurate share of the overhead burden. Here's why:

The result of calculating overhead as a function of job cost is to earn an unexpected profit on one project (the excess overhead allowance), then spend that profit to cover the inadequate overhead allowances of other jobs. Successful business owners believe in retaining the profit they make, not using it to subsidize other work.

Estimator Accuracy

The profit margin is based on decisions made by the management and sales departments. Whether management decides on a 23 percent profit factor or a 2.3 percent profit factor, it has no effect on the accuracy of the estimate.

An estimate that yielded an additional 20 percent profit would probably be considered a superb estimate by most standards, and an estimate that lost 20 percent would be a disaster. However, from the professional estimator's point of view the estimates were equally inaccurate, and a conscientious estimator would analyze both to see where he went wrong. Success for the estimator is a zero difference between estimated and actual cost.

Tying it Together

The purpose of a business is to earn and retain a profit for the owner. Activity not directed to that end is not business, but a charitable endeavor, a hobby, or something else.

The function of the construction estimator is to anticipate the costs of a project as accurately as possible so that the business can earn an appropriate profit. To simplify this process he splits the project into its component parts and assigns costs to each part. Some of the costs are precisely known closed costs. Other costs are variable open costs.

We have found that a major cause of lost profit lies in the failure to provide for unexpected open costs. In order to do this the estimator must first recognize the variables that are present in the project. Then he must evaluate their probable effect, and express that effect in estimate dollars.

Because many costs—overhead, labor, and supervision in particular—vary with the length of the project, they should be estimated as open costs in order to produce a consistent and predictable profit.■

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