

DOLLARS AND SENSE: MANAGING TIME AND COMPANY COST

Tom Smith
President, Grass Roots, Inc.
East Lansing, MI

Time management of employees and calculating labor costs are critical components of running a profitable business. So, too, is the cost of doing business, sometimes referred to as overhead. Labor and overhead costs represent just two of the costs that need to be accounted when determining a price for work to be performed. Other major costs include equipment and materials.

It should be relatively easy to determine materials cost off a basic materials list. Part of any materials cost should include sales tax, if applicable, and the cost of delivery or transportation to the site. In addition, loading, unloading and handling costs may be included with the materials cost or may be calculated as part of the labor costs for the project. The key is to make sure these costs are recovered somewhere.

Equipment costs may be a bit more difficult to figure accurately. To calculate equipment costs it is necessary to know the initial cost of the equipment, the anticipated life of the equipment, and the cost of maintenance over the life of the equipment. Be sure to include any interest or finance charges that may be part of equipment cost plus insurance on that equipment. Determine an hourly rate for that equipment by adding up all costs of the equipment and dividing by the anticipated life of the equipment in hours. Remember that maintenance needs to be included and may represent a higher cost than the purchase price of the equipment.

Determining equipment life and costs is best done using historical records from your own company. These can be supplemented with figures supplied by the equipment manufacturer on anticipated life of a particular piece of equipment and the cost of operation. A good way to check your equipment cost figures is to use rental rates for that type of equipment. These rates will include an overhead and profit figure for the rental company so they may be high.

Each piece of equipment you own should have an hourly rate of operation cost which can then be used to calculate a job cost by estimating the time of use of a particular piece of equipment for the project in question. Good historical records of equipment time for particular tasks coupled with accurate maintenance records will make calculating equipment costs much easier.

Many of us do a good job of calculating our materials and equipment costs. These costs seem to be more "concrete" or straightforward to calculate. But labor and company costs (overhead) often represent the majority of our job cost, so if we do not have an accurate handle on figuring these costs, our efforts in calculating materials and equipment costs are fruitless.

While there are many systems developed for cost estimating, bidding, and cost accounting, a system that is easy to calculate and is consistent throughout the year makes the most sense. Because of the importance of labor and overhead costs, I like to combine these together to determine a true cost of labor with overhead for each employee. The true cost of labor can be an eye-opening realization.

Following is a simplified business scenario to illustrate this method:

BUSINESS SCENARIO #1

This project represents approximately 5% of your total revenue.

Your base labor rate is \$8/hour. Your base laborer averages 50 hours per week.

Your tax burden is as follows:

<i>MESC</i>	<i>10.00%</i>
<i>FUTA</i>	<i>0.80%</i>
<i>FICA</i>	<i>7.65%</i>

Your compensation insurance rate for landscape gardeners is \$7.75 per \$100 of payroll.

You pay a total of \$3,500 in auto insurance and \$3,700 in liability insurance per year.

Your recently purchased land and a new building. Your monthly mortgage payment is \$1,290.

You pay an office manager \$22,000/year.

Your other annual overhead is as follows:

advertising	\$ 1,200
auto expense	\$18,000
conference & dues	\$ 600
employee benefits	\$ 3,000
licenses	\$ 180
office expense	\$ 1,000
postage	\$ 400
printing	\$ 250
repairs & maintenance	\$ 1,200
supplies and parts	\$ 3,200
telephone	\$ 1,950
utilities	\$ 1,800

First calculate your true cost of labor as follows:

\$8.00/hour X 40 hours/week	=	\$320.00	regular time
\$12.00/hour X 10 hours/week	=	<u>\$120.00</u>	overtime
			\$440.00/50 hour week

\$440.00 divided by 50 hours = \$8.80 actual dollars per hour including overtime but without taxes or workers compensation. The tax burden and workers compensation are added based on the percentages listed:

\$8.80 X .10 (10%)	.88
\$8.80 X .008 (0.8%)	.07
\$8.80 X .0765 (7.65%)	.67
\$8.80 X .0775(7.75%)	<u>.68</u>
	\$2.30

This gets added to the hourly rate: \$8.80 + \$2.30 = \$11.10

So, an employee making \$8.00/hour working 50 hours per week is really costing this business \$11.10/hour. But this is only part of the picture. It would indeed be \$11.10/hours if this employee was 100% efficient, meaning every hour worked is productive in generating revenue. In reality, this never happens.

To calculate the true cost of labor we must have a figure for efficiency. This will vary with each industry and is probably far less than you want to believe. This can be accurately calculated by tracking actual productive time divided by total time for which you paid that employee for the entire season or year.

I have asked many companies to estimate their efficiency and have attempted to track this in my own company. The figure I use based on my very unscientific survey is somewhere between 50% and 60%. Fifty percent means that for every 2 hours worked, only one is actually productive or billable. Remember this is over the entire season or year. When you pay people to stop at a convenience store, wait for broken-down equipment to be repaired, talk to their co-workers in the morning after they've punched in, or spend time loading, driving to a job site and unloading only to be rained out and then have to load back up and return to the shop, you are paying for inefficiency. Obviously this is all part of the cost of labor.

For our sample business, let's use an efficiency of 50%. That means our \$11.10/hour must be divided by the efficiency: \$11.10 divided by .5 (50%) equals \$22.20/hour. This is our true cost of labor! Raising efficiency

by 10% up to 60% makes a big difference—\$11.10 divided by .6 = \$18.50/hour or a savings of \$3.70/hour.

Knowing the true cost of labor is significant when we decide to give an employee a raise. If our \$8.00/hour employee gets a .50/hour raise to \$8.50/hour, what does this really cost us? Doing our calculations as before with the new hourly rate, our true cost of labor becomes \$23.64. That .50/hour raise really cost this business \$1.44/hour!

This is a simplified example. If we offer any benefits like vacation, sick time, or health insurance, these benefits would add to the cost of labor before we factor in efficiency. Like the pay raise, they too would be inflated.

Our remaining cost to calculate is the cost of running the company or what is commonly referred to as overhead. These are costs that you cannot assign to any one job. You spend this money whether you are working on a job or take the week off. Each job or client you service must pay for a part of this overhead. Overhead is a cost just like your materials.

In the business scenario we are using, overhead needs to be added up to determine an annual figure. In our example, overhead is:

auto insurance	\$ 3,500
liability insurance	\$ 3,700
mortgage (1290/mo X 12 mos.)	\$15,480
office manager	\$22,000
advertising	\$ 1,200
auto expense	\$18,000
conference & dues	\$ 600
employee benefits	\$ 3,000
licenses	\$ 180
office expense	\$ 1,000
postage	\$ 400
printing	\$ 250
repairs & maintenance	\$ 1,200
supplies & parts	\$ 3,200
telephone	\$ 1,950
utilities	\$ 1,800
	\$77,460/year

Our sample project represents 5% of our total revenue. That means that we must recover at least 5% of our overhead on this project. Five percent of our annual overhead is \$3873 ($\$77,460 \times .05 = \3873).

We can calculate the amount overhead adds to the cost per hour of each employee. To do this we need to know the number of employees in the company and the annual hours they work.

Going back to our example, let's make some assumptions. In your business these would not be assumptions but rather historical figures or estimates. Assume our employees in Michigan work from April 1 to November 30. This represents about 35 weeks. In our example, each employee averaged 50 hours per week. This totals 1750 hours (35 weeks X 50 hours/week).

Let's arbitrarily say we have 7 employees. This gives us a total number of employee hours for the season of 12,250 hours (1750 hours/employee x 7 employees). Our annual overhead of \$77,460 must be recovered over these 12,250 hours which means an additional \$6.32 per hour ($\$77,460$ divided by 12,250 hours). But since we can only recover overhead during productive time, our 50% efficiency inflates this figure to \$12.64 per hour which needs to be added to each employee's true cost of labor. Our employee making \$8.00/hour costs \$22.20/hour plus \$12.64/hour to pay for our overhead, or a total of \$34.84/hour.

Our job cost then represents the cost of materials, equipment, labor & overhead. Our price is this total plus

profit. When we combine our true cost of labor with our overhead cost (\$34.84 in our example) we now have an easy way to make sure that we charge accurately. If a project will take 20 employee hours to complete, this means 20 hours X \$34.84/hour NOT 20 hours X \$8.00/hour.

Since we may not be paying all employees the same pay rate or they may not average the same hours per week, we need to calculate the true cost of labor for each employee. This figure will remain constant assuming their pay rate stays the same and their hours of work remains the same. Our calculations are done at the beginning of the season and need only be recalculated should pay rate or average hours change.

This method of cost-accounting allows us to simplify two rather difficult components of our total job cost. Using this method, we automatically recover overhead and accurately charge for labor and related expenses.

Our industry too often relies on unit pricing—so much per 1000 square feet for mowing, so much per juniper or yew installed, etc. This makes no sense in reality. A property full of trees will take a lot longer to mow than a wide open space. Two junipers across town will cost a lot more per juniper to install than two dozen a mile away. Even worse is taking materials cost and using a multiplier (i.e., materials X 2) to calculate our price.

As an industry, we need to better understand our costs. It becomes more simple and accurate when we think of every project price as the sum of material cost + equipment cost + labor & overhead cost + profit.

Profit becomes the arbitrary figure we add onto our costs so we stay in business. If we don't figure our costs accurately, then whatever profit we think we are making disappears to pay for some other cost.

Each business is unique. Unlike material & equipment costs, labor and overhead costs may vary considerably between companies. This may be one reason why bidding in our industry varies so much between companies. Another reason may be failure to accurately calculate our costs.

Using this method of calculating labor costs and combining overhead and labor into one cost focuses our pricing on these two very important costs.