

## **D. T. HICKS & CO.**

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Dear Executive:

Over the years, several readers have suggested that I not combine such a wide variety of topics in a single “potpourri” letter – like the one I distributed last month – but instead send a number of shorter letters that include just one or two topics. The objection is usually that the “potpourri” letters contain too many different – and usually unrelated – thoughts to contemplate in one sitting.

Since I’m not really as pigheaded as the rumors suggest, I thought I’d give it a shot with a letter this month that contains two short items, both of which relate to the topics of cost estimating and quoting. Both were originally composed as comments to be posted on various LinkedIn forums.

### **Rufus and Dufus – A Study in Estimating**

Cletus Brown was a successful farmer in a Midwestern state who used a center-pivot irrigator with a radius of 1,320 feet to water his crops. He was also the proud father of highly-competitive twin sons; Rufus and Dufus. Like most fathers, Cletus wanted the best for his sons, so he made sure they hit the books hard after working all day on the farm. An intelligent man himself, Cletus regularly found things on the farm that he could turn into problems that he would challenge his sons to solve.

One day Cletus was working on the irrigation system with his sons when he challenged them to calculate the number of square feet the irrigation system covered. Since they had both studied Geometry, he thought the problem would be a good test of their mastery of the subject.

Dufus, who was the more energetic of the twins, knew that the area of the circle covered by the irrigator was a function of its radius. He figured that the more accurate his measurement of the circle’s radius, the more likely he would come up with a more accurate measure than his brother. As a result, he convinced the manager of the local golf course to lend him a laser rangefinder so he could precisely measure the circle’s 1,320 foot radius. He also knew that the mathematical constant  $\pi$  was required in the calculation so he checked his Geometry book and used the five-decimal version of 3.14159 in his calculation.

Rufus, on the other hand, simply paced off the circle’s radius. It took him 425 paces to move from its center point to the circle’s edge, so he figured that the radius was 1,275 feet. He also knew that  $\pi$  was somewhere around 3.14 so he used the two-decimal version in his calculation.

The twins then presented their answers to their father. Rufus calculated the circle's area at 5,104,463 square feet. Dufus, with his more precise measurements, calculated the circle's area at 8,294 square feet. Since Cletus knew that Dufus had put in the work to make more precise measurements, he was stunned that his answer was so far from the 5,473,906 square feet he knew to be correct.

He asked both sons how they made their calculations. Rufus showed him how he had put his radius of 1,275 feet and his 3.14 measure of  $\pi$  into the formula  $a = \pi r^2$  to arrive at his answer. Dufus showed him how he had put his radius of 1,320 feet and his 3.14159 measure of  $\pi$  into the formula  $a = 2\pi r$  to come up with his answer. Dufus had put his data into the formula for a circle's circumference, not the one for its area. After pointing out his error, Cletus explained to Dufus, "You know son, it's always better to put estimated data into the correct formula than to put precise data into the incorrect one."

Perhaps accountants and cost estimators could learn a lesson from Rufus and Dufus. Improving the precision of the data you put into an invalid cost model will not improve the accuracy of its cost calculations. Insuring the validity of the cost model, however, will improve the accuracy of cost calculations even if the data used is imprecise. So don't be a Dufus and continue fine tuning the data being put into a cost model that fails to reflect the fundamental economics that underlie your business. Fix the cost model instead!

### **The Three Landscapers – A Study in Quoting**

Victor Delibera, my old friend and "cost estimator extraordinaire," described the following theoretical situation to the members of the Automotive Price/Cost Estimators, Engineers & Analysts Group on LinkedIn the other day and asked for their thoughts:

*"Assume for a moment you wanted to contract landscaping for your home. Also assume, after your initial due diligence you've found three companies of similar quality and you ask each to quote your job.*

*The first landscaper returns a price of \$1,000 USD the second returns a price of \$1,200 USD and the third returns a price of \$950. Your next step is likely to ask each how they arrived at their pricing.*

*The first explains he uses the same method Michael Dell used when he was starting his computer business; he doubles his material cost. His material cost him \$500 so his price is \$1,000. The second landscaper explains that his material cost is \$500 and he needs 5 people for the day and he anticipates it will be one day's worth of work for 5 laborers, at a cost of \$350 and there is also an overhead cost for his trucks, loader, gasoline, maintenance and other equipment that he has assessed at \$150 and the remaining \$200 is used towards his profit and sales and marketing efforts. The moment the third is asked how he arrived at his pricing, he throws his hands up and screams at you and explains he doesn't do business with people who are so nose-y and what he has in his cost is none of your business. He further retorts, that if he is the lowest bid he should be awarded the business and its irrelevant how his cost is created.*

*The question is; to whom do you give your business and why?"*

My contribution to the discussion Victor started was as follows:

“In the situation you describe, I would see if I could take advantage of the idiot that doubles his or her material cost to arrive a sales price. To do so, I’d tell each vendor that I might not be able to do the entire project and ask each one to rebid my job on a line-by-line basis.

Based on its methodology, I know the ‘material doubler’ is going to overcharge me for most things that are easy to install (or plant); like \$3 bags of mulch or stones where it plans to charge me \$3 to simply rip open and dump each bag. On the other hand, the same methodology will result in it giving me a bargain for most things that are more difficult to install; like a \$50 tree whose planting will not only require a lot of labor, but will require special capital equipment as well. Because its methodology more closely links actual costs with the work being performed, the landscaper with a more rational quoting method will undoubtedly come up with a higher price for items like the tree and a lower price for items like the mulch and stones. The third landscaper will come up with whatever its quoting method generates.

I would then ‘cherry pick’ and see if by doing so I can come up with a total cost of less than the third landscaper’s original \$950 bid. If I can come up with a lower total price, the idiot landscaper will undoubtedly lose money on what he sells me, the more rational one will at least turn a profit on the items he does sell me, and the third may or may not turn a profit on its portion of the sale.

The first landscaper will fall victim to Hicks’ First Law of Pricing<sup>1</sup>; it won’t get the business where it charges me for work it doesn’t do for me, but it will get the business when it doesn’t charge me for work that it does do for me.

I’ve seen scores of manufacturers with invalid cost models win major contracts on which it was impossible to earn a profit this way – some of which won enough of these contracts to put the company out of business.”

I’m pretty sure none of my readers would allow their company – or their clients’ companies – to follow the path of the idiot landscaper and let a pricing model that guarantees undesirable contracts drive them into oblivion...but then again, some of my readers used to work for the companies mentioned at the end of the previous paragraph and they’re now working for someone else.

I hope you’ve all managed to dodge the wild weather that’s been wandering about North America the past month or so. As always, I look forward to hearing from any of you who have questions or comments regarding the letter and you should feel free to forward a copy to anyone you believe might be interested.

Very truly yours,

*Doug*

Douglas T. Hicks, CPA, CMC  
President

1 “A company will win a lot of business when it fails to charge customers for all the work it does, but it won’t get much business when it attempts to charge them for work it doesn’t do.” – Hicks’ First Law of Pricing

## *A message for manufacturers...*

### **Will the outdated, direct labor-based methods your company uses to measure product and process cost be the *Achilles' heel* that offsets the advances you've made in quality and productivity and ultimately puts your company "at risk?"**

For over a quarter century the dangers of using traditional direct labor-based costing models to develop decision support and performance measurement information have been clearly documented by experts in academia and industry. During those twenty-five years, a vast body of knowledge and experience has been accumulated, documented and liberally disseminated by scores of experienced accounting professionals. Yet here in the year 2011, a vast majority of manufacturers continue to use inaccurate and irrelevant direct labor-based product and process cost information when making decisions that are critical to the survival and growth of the organization.

The following are common costing characteristics of a manufacturer whose costing methods cause it to 1) **attract unprofitable business**, 2) **lose out on potentially profitable business**, 3) **overlook operating improvements**, and 4) **develop unprofitable business strategies**:

#### **Characteristics of a Manufacturer Whose Costing Methods Put it "At Risk"**

- Its cost model fails to link the cost of purchasing, receiving, testing, handling, storing, or otherwise supporting materials, components or purchased services with the products or services being purchased.
- All indirect manufacturing costs are assigned to products using direct labor-based overhead rates, including costs related to:
  - 1) Manufacturing lines and cells,
  - 2) CNC Equipment, and
  - 3) Equipment using multiple or partial operators.
- Set-up and changeover costs are included in manufacturing overhead.
- The cost of moving and storing in-process and semi-finished inventory is buried in the company's direct labor-based overhead rates.
- The cost of post-manufacturing activities, such as finished goods handling and storage, and order fulfillment (picking, order assembly, shipping) are not isolated and assigned to specific customers.
- The cost of supporting high-maintenance customers or markets are not segregated and assigned to those customers or markets.
- General and administrative costs are either ignored or assigned to products as a percentage of total product cost.

**The risk inherent in ignoring your costing methods' deficiencies makes it a critical enough issue to explore – not ignore!** You can learn more about "the costing problem," its solution, and why D. T. Hicks & Co. is uniquely qualified to help your small- to mid-sized manufacturing company solve the problem at [www.dthicksco.com](http://www.dthicksco.com). If you'd like to pursue the topic further, I'd be pleased to discuss it with you. Contact me at:

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