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Pricing Custom Products without a Standard Cost System

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In contemplating what I would contribute to the Lean Accounting Summit this past September, I expected the topics of eliminating Standard Cost Accounting and Lean measurements would be well covered. And, they were. My presentations were “How to Hold a Successful Kaizen Event” and “Easier, Simpler, Faster; Information Systems in a Lean Organization”. I also participated in a panel discussion of lean implementation of Direct Costing. Attendees were eager to learn about lean concepts, theories, and the practical experience of accountants in real companies.

But one question kept arising in the sessions and in the networking that wasn’t being addressed...

“How do I price a product without our Standard Cost System?”

You do not have to be a company that has adopted a Lean Strategy to know that pricing products should be based on what the market will bear or “what will the customer pay” and not on your company’s cost structure. Dr. Tom Johnson, the keynote speaker for the Summit, described it beautifully, “It is not knowing the product cost, but what it costs to make your products.” The customers will pay what they will pay.

But still, the concern and question lingers for products that are custom. They may not have a “what will the customer pay” value that is easy for the customer or the company to identify.

So this question turns to...

“How do I price a custom product without our Standard Cost System?”

To answer this question, first decide what you want to achieve in selling the custom product. Do you want to add to bottom line profit incrementally without regard to margin percentage? Or, do you want to use the custom product to increase bottom line profit only if it improves margin percentage?

The purpose of this article is not to argue whether there is a correct answer to the above question but to provide a model to position the pricing without a Standard Cost system.

The model provides a means to price the product and accounts for the true variable cost component of the product, the material, and the utilization of constrained resources. The model assumes that all other costs of the organization are not variable and will be consumed regardless of whether the custom order is sold.

The model assumes the price the custom product should add to both the profit of the organization and the profit margin percentage of the organization. After establishing the model, a variation to solely increase profit without regard to margin percentage is presented.

The Model

First, borrowing from Eli Goldratt's *Theory of Constraints**, identify the single company constraint for the product. Typically this would be a manufacturing machine or process that is constantly deployed and does not have the ability to produce more of the product. Be aware as lean is implemented, the constraint may no longer be in manufacturing. It might be in customer engineering for a specific product or project management (especially for a company offering custom products).

However, to demonstrate the model, assume the constraint is a machine in the factory.

Next, establish the baseline relationships for the business. Calculate the current relationship of material expense to sales dollars. If sales are \$10M, and material expense is \$4M, the relationship is 2.5x or \$10M/\$4M. Refer to this as "material mark-up".

Sales	<u>\$10 M</u>
Material Expense	\$4 M
Material Mark-up	2.5x

Now, calculate the current relationship of the constraint. Identify the number of hours of current constraint utilization. For instance, if the constraint is currently utilized 22 hours a day, 6 days a week, for 50 weeks a year, then the total constraint availability is 6600 hours. Next, identify the total variable margin of the company. The variable margin is calculated by taking sales less directly variable costs which would typically only include material and variable sales discounts or compensation. Last, calculate the variable margin dollars per constraint availability. Using the example above for materials, sales of \$10M less material of \$4M equals \$6 M variable margin, divided by 6600 hours. The relationship is \$909 dollars per constraint hour. Refer to this as the "constraint mark-up".

Sales	\$10 M
Material Expense	\$4 M
Variable Margin	\$6 M
Constraint Availability	6600 Hr/Yr
Constraint Mark-Up	\$909/Hr

If you have products that do not utilize the constraint, and it is possible to remove those products from the variable margin calculation, this model is even more effective. This is especially true if the products that use the constraint tend to have higher than average variable margin. If they have lower than average variable margin, it would not be necessary to remove them in calculating the organization's constraint mark-up.

We are now ready to price a custom product in a way that will increase our profit and increase our profit margin.

First, identify the material in the custom product and apply the markup. Then identify the constraint hours required by the product and apply the markup. The minimum acceptable price would be the price that is at least as high as the price from the material mark-up that has a variable margin greater than the constraint mark-up margin. This will be the minimum price that will allow both the bottom line profit and the profit margin to increase.

Custom Order:	Example A	Example B
Material Content	\$15,000	\$ 5,000
Material Mark-up	2.5x	2.5x
Possible Price	\$37,500	\$12,500
Variable Margin	\$22,500	\$ 7,500
Constraint Hours	10 Hrs.	10 Hrs
Constraint Mark-up	\$ 909/Hr	\$ 909/Hr
Constraint Margin	\$ 9,090	\$ 9,090
Additional Price to achieve Constraint Margin	\$0	\$1,590
Minimum Price To Increase Margin	\$37,500	\$13,590

A variation on the model is to identify the price for a product where attempting to only increase profit dollars without concern about margin percentage. The same approach can be used without having to mark-up the material. Again, this assumes there is only one constraint and that all other resources are not variable.

Now, calculate the price in this example:

Custom Order:	Example A	Example B
Material Content	\$15,000	\$5,000
Material Mark-up	1.0x	1.0x
Possible Price	\$15,000	\$5,000
Variable Margin	\$0	\$0
Constraint Hours	10 Hrs.	10 Hrs

Constraint Mark-up	\$909/Hr	\$909/Hr
Constraint Margin	\$9,090	\$9,090
Additional Price to achieve Constraint Margin		
	\$9,090	\$9,090
Minimum Price To Increase Margin	\$24,090	\$14,090

In this case, there would be an incremental profit, but it only replaces the margin of an existing constraint hour. This is extremely risky, but does provide a floor with which to work.

In closing, a reminder. Set prices based on market dynamics; not cost dynamics. Pricing from a cost basis is risky and may not provide competitiveness in the market. Pricing from cost will either leave money on the table for the value the product provides to the customer, or will result in lost sales from pricing above market.

Pricing from a Standard Cost System is flawed by the very nature of Standard Cost Systems since they try to establish product cost. When market value is difficult to assess, understanding the true constraints and variable costs of the company will aid in understanding what it costs to produce products improving both your competitive position and output.

* To learn further on the Theory of Constraints, try reading “The Goal”, “It’s Not Luck”, and “Critical Chain” by Eli Goldratt