AT ISSUE: MEASURING COSTS

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Cost Measurement

At Issue

The use of the terms *cost measurement* and *measuring costs*.

Summary

There is a perceived increased use of the terms *cost measurement* and *measuring costs* in the cost management community. This is another example of the imprecise use of both math and language in accounting, and by many of its practitioners. Costs are not measured, they are calculated. Not understanding the difference can cause you to misinterpret and mismanage information when making important financial decisions.

Discussion

Assume you are talking to someone who isn't in your presence. Perhaps they are on the phone or you are chatting on social media. You ask them how tall they are. They respond, "It depends. One way, I'm 5'11, another 4'8, and yet a third, 6'5." The answer makes no sense, and you might walk away with the thought, "I still don't have an answer to what seems to be a simple question!" You cannot rely on what you've been told.

Measurements involve determining the quantities, amounts, sizes, and the like, using a measuring tool or approach. We measure length with a ruler, temperature with a thermometer, or volume with the cup. The expectation is, although different measuring devices or approaches may be used, the answer would basically be the same. Measurements, therefore, bring an expectation of accuracy and precision. Yes, you may be 5'11 with one ruler, 5'11.5 with another, and even 6' with a third, but somewhere in the range you can trust that there is a true value.

When someone says they measure costs, this expectation of accuracy and precision should hold. They should be able to measure costs as they measure the length of a table. This does not happen. Costs are not measured, they are calculated.[1] Each company has a formula, or set of formulas or approaches that it uses to calculate whatever costs it seeks. The most simple is calculating a cost by using cash flow. For instance, the cost of your new printer was the same as the cash used to pay it - $350. The most complicated costs are product, service, and activity costs that have numerous factors such as labor, materials, overhead, and other factors that are used in the equation. The increased complexity comes from the calculus involved when trying to assign unrelated costs to that being costed.[2] Consider, for instance, the notion that an hourly worker's pay (cost) does not change based on the output they create (the costed).[3] They are mathematically independent.[4] If you want to create a cost for the output, the only way to do it is to create an artificial relationship. Since the relationship is contrived, it is arbitrary, suggesting that no single way is mathematically superior to another. Modeling this artificial relationship

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[1] This is the difference between a measure and a metric. Measures are precisely determined, while metrics are calculated. Temperature is a measure, head index is a metric.

[2] See, for example, Business Dynamics & Research. *The Principles of Capacity*. #BDR2013-03, p6. Cincinnati, OH, 2013. Available from: http://bdrco.org/BDR/Publications_files/The%20Principles%20of%20Capacity.pdf

[3] Ibid.

[4] One example of mathematical independence occurs when the dependent variable, the one plotted on the Y or vertical axis, does not change as the dependent variable, the one on the X or horizontal axis changes.

is the source of the complexity, and the more precise modelers try to get, the greater the potential for even more complexity. This is how you end up with multiple costs representing the same scenario. Because there is no single interpretation, the cost to make a pencil can be calculated as $1.25, $2.73, or $3.31.

This creates two dilemmas. The first is, which cost is right? The second is, how can you trust the one you've chosen?

Which cost is right?

When someone offers a cost, it is the output of one model. The problem is, there are, or could be, many parallel models, suggesting yours is not the only possible answer. Each model has its own strengths and weaknesses. If you are trying to cost a product for pricing purposes, for example, and this number is not exact, based in mathematical reality, nor is it unique, how do you know yours is the best?

Can you trust it?

To get your cost, many assumptions had to be made. Some seem more reasonable than others, some have assumptions that seem more precise and trustworthy. However, the truth is, if you have to assign costs, it is because there is no mathematical relationship. If there is no relationship, the number is contrived. If it's contrived and has no mathematical basis, it is mathematically arbitrary. It's that simple. If you have to make up relationships to get a number, you cannot trust that number. Whenever a client says, "It costs me X to do something," that number is immediately questioned.

Suggestion

If you want to understand your financial performance using actual numbers, use cash. Comparatively, cash is like a tomato. What you have is very clear and undebatable. You know how much cash comes in or leaves; when; and to, or from whom. Costs are like having tomato sauce. Each recipe leads to different results. Think about this. When you look back at your operations for any arbitrarily chosen period, you have an unambiguous snapshot of what cash was spent, on what, and you know, or should have access to, what you did with it. It is clear, a tomato. When, three people can analyze that snapshot and create three completely different cost interpretations that may include many other factors, it's like three chefs creating different interpretations of what to do with that tomato, tomato sauce. The tomato is clear and simple, while tomato sauce is processed and complicated.

Final Thoughts

If someone tells you they can measure your costs, they are misrepresenting both what they do, and the results you will get. Measuring costs is not a realistic practice, whether business-wise, logically, or mathematically. The key is to understand two things. First, whatever cost numbers you calculate, mathematically, they are meaningless. That there are many answers and each is contrived means your faith should not be put in this number. Second, if the issue is getting your arms around your financial situations, use cash flow. Only when you focus on cash are you assured of having precise, measured financial data.

THE CASH INNOVATION LAB

the Cash Flow Innovation Lab

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About the Cash Flow Innovation Lab

Managerial accounting is a 19th century tool solving 19th century problems. The basic approach has not changed. The business world has. Using managerial accounting is like fighting battles with muskets. It's time to upgrade. Through decades of R&D, the Cash Flow Innovation Lab, research arm of Business Dynamics & Research, Ltd, has become a source of providing 21st century tools, models, education and training. The Lab offers tools and information that can either turbocharge or replace your managerial accounting approach with absolutely no loss, but significant gains in financial data and information. It's like replacing your musket with laser-guided, precision machinery to help you fight the wars of the 21st, not 19th century. To learn more, visit www.cashinnovationlab.com.

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About Dr. Lee

Dr. Reginald Tomas Lee is a director for the Cash Flow Innovation Lab. In this role, he is involved with developing and sharing leading edge, cash flow modeling and management techniques. He is the creator of Explicit Cost Dynamics, a cash flow modeling tool that addresses the weaknesses of managerial accounting and provides companies with more accurate and informative operations and cash flow data. For more information on Dr. Lee, please visit his website at www.reginaldlee.org.