

Standard Costing Can Lead to Poor Decisions

By Brian H. Maskell

It is essential to have accurate and valid financial information when making important decisions. Unfortunately, most manufacturing companies make their decisions using standard costs. Using a standard cost for each product is harmful and misleading, leading to poor decision-making.

Lean manufacturers use value stream costing instead of standard costing. They calculate the costs and profitability of the value stream as a whole, not for the individual products within the value stream. Up-to-date information is available on the total costs and profitability of each value stream; usually every week.

Value stream cost information is used for decisions relating to pricing, profitability, sourcing, make/buy, product rationalization, and so forth. Here's a typical example.

1. A Request for Quote

Puddleglum Corporation manufactures pumps, piping, and accessories used by farmers to keep marshy land dry. The company recently received a request for quote from a large customer for a valve called an XJ2. The valve is a small and simple-to-manufacture product that Puddleglum has been manufacturing for many years. The customer -- a large distributor in the area of the UK called East Anglia -- wished to place orders for 3,000 per month, probably for years into the future. The customer stated a target price of \$45 per unit.

Puddleglum's standard cost for an XJ2 looks like this:

Labor time to make an XJ2	750 seconds
Labor cost per hour	\$24.73
Labor cost per unit	\$5.15
Overhead rate	290.00%
Overhead cost	\$14.94
Material costs for XJ2	\$22.33
Standard cost XJ2	\$42.42

The customer was firm on the \$45 price. So Puddleglum turned down the order because it was not profitable. With a price of \$45 and a cost of \$42.42 the profit margin was less than 6% -- and this was way outside the company's 15% minimum margin rule.

2. Can We Outsource this Valve?

The Puddleglum sales people were not to be deterred in their quest for a profitable sale. They bought some time from the customer and got to work trying to find an alternative source; and they were successful. They found a supplier in the Far East that could provide the valve at a price significantly lower than the standard cost.

Price to the customer	\$45.00
Cost from the Far Eastern supplier	\$30.00
Overhead for incoming logistics	7.5%
Total inbound cost	\$32.25

Monthly revenue for 3,000 units	\$135,000.00
Monthly cost for 3,000 units	\$96,750
Monthly profit	\$38,250
Profit margin	28.33%

The sales people quickly went back to the customer and told them Puddleglum was happy to meet their price and they set about ordering 30,000 units to be made and shipped to the UK from the orient.

3. The Plant Controller Takes a Second Look

The controller at Puddleglum's valve plant was not satisfied with the outsourcing decision. This plant had been on a lean journey and the financial controller had become a lean leader. He had seen the value stream go from being a long-lead-time, high WIP, traditional production process to truly lean-focused flow. They were still a long way from "being lean" -- but they had made some progress.

The controller truly believed that Puddleglum's value stream could compete with any company in the world, given the chance. He also hated the idea of huge inventories and complexity that would come from sourcing overseas. It was the opposite of lean thinking.

The controller looked at these decisions using the value stream costing information reported to the value stream manager each week.

Current monthly revenue	\$1,042,631
Material costs	\$424,763
Production employee costs	\$100,464
Support employee costs	\$208,652
Machine costs	\$9,858
Other value stream costs	\$73,115
Profit	\$225,779
Return on sales	21.65%

Working with the production management team, the plant controller learned that the additional volume to support the 3,000 units-per-month order required two more people and two more machines. He worked out how the value stream costs and profitability would change if they added these additional costs and revenues.

	Current State	Incremental Costs	Value Stream with New Order
Current monthly revenue	\$1,042,631	\$135,000	\$1,177,631
Material costs	\$424,763	\$66,990	\$491,753
Production employee costs	\$100,464	\$7,728	\$108,192

Support employee costs	\$208,652		\$208,652
Machine costs	\$9,858	\$939	\$10,797
Other value stream costs	\$73,115		\$73,115
Profit	\$225,779		\$285,122
Return on sales	21.65%		24.21%

The plant controller then summarized the three approaches; standard cost, outsourcing, or making in house.

	Standard Cost	Outsource	Make In-house
	No Order	Take the Order	Take the Order
Current monthly revenue	\$1,042,631	\$1,177,631	\$1,177,631
Material costs	\$424,763	\$514,763	\$491,753
Production employee costs	\$100,464	\$100,464	\$108,192
Support employee costs	\$208,652	\$208,652	\$208,652
Machine costs	\$9,858	\$9,858	\$10,797
Other value stream costs	\$73,115	\$79,865	\$73,115
Profit	\$225,779	\$264,029	\$285,122
Return on sales	21.65%	22.42%	24.21%

To most people's surprise, the best course of action was to make the product in-house rather than outsource it to the low-cost country. If Puddleglum makes this product in-house, it will make more money and improve overall profitability. In addition, the company will save itself the problems and additional costs of sourcing from a supplier who is halfway across the world.

4. Puddleglum Corporation's Conclusion

Here are the conclusions of the Puddleglum Corporation senior management team after seeing this example:

- a. Making an important decision using a standard cost is misleading and wrong. The fact that you can outsource an item for less than the current standard cost is meaningless; it tells you nothing.
- b. The team did not abandon the idea of sourcing from overseas, but it was recognized that these decisions must be made using valid and reliable financial information.
- c. Valid and reliable financial information comes from up-to-date value stream direct costs and profitability. These are "real numbers", not artificial accounting concepts.
- d. Very few people in the company really understand the standard costing system, and using it leads to serious mistakes. Value stream costing is simple, readily understandable, and gives information that can be used reliably for decision-making.

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